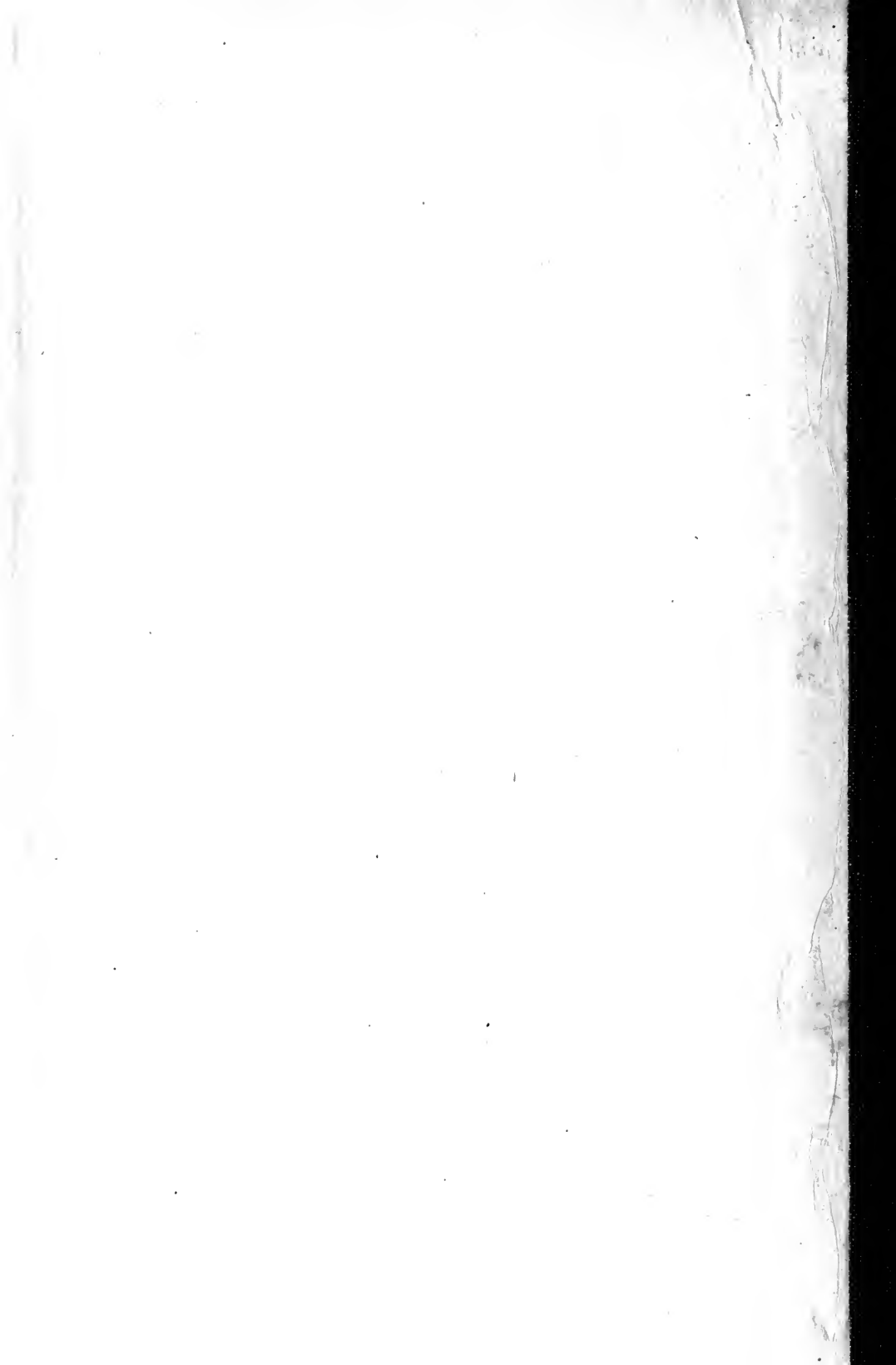
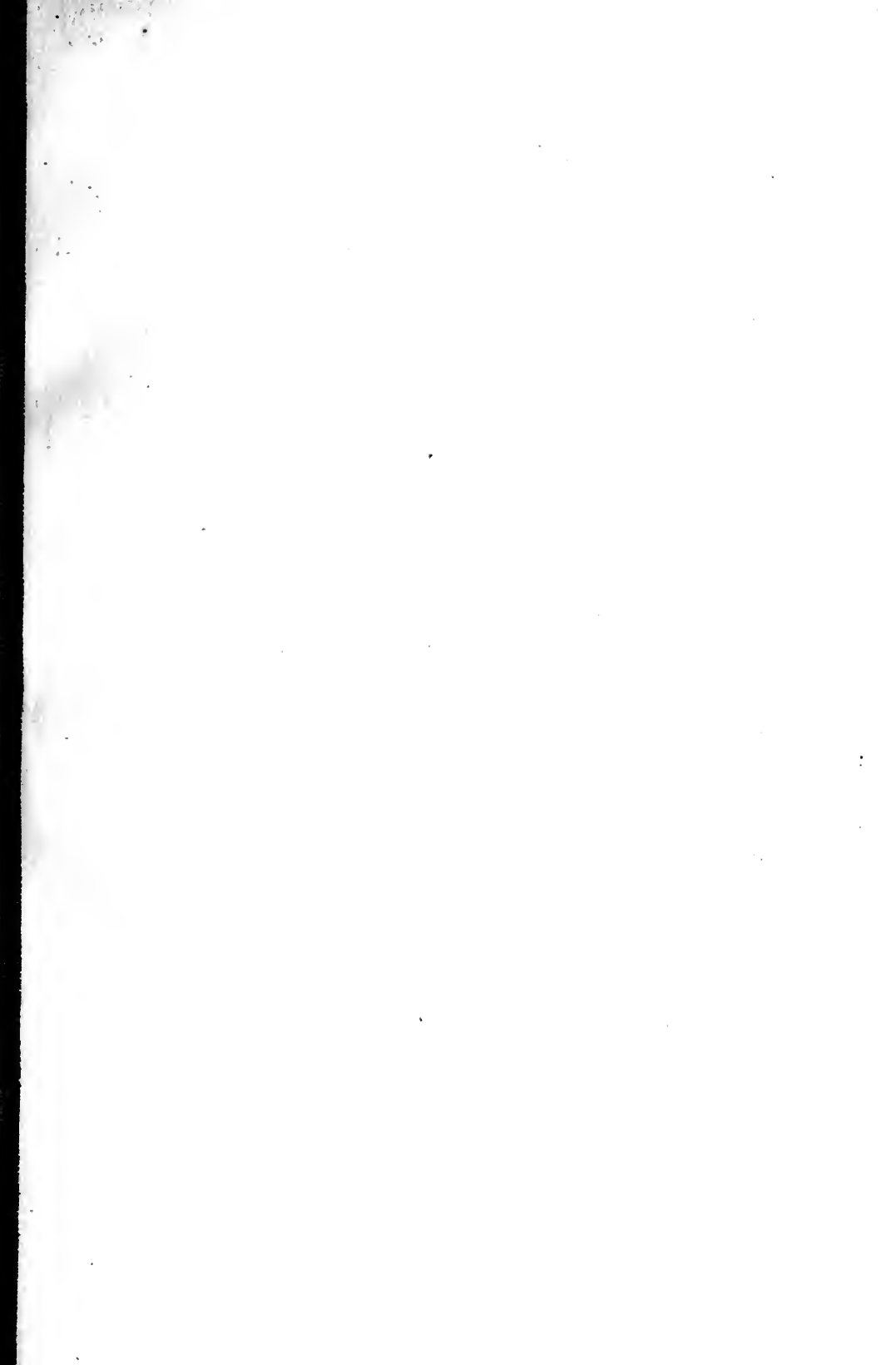


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THE BRITISH JOURNAL
OF
CHILDREN'S DISEASES
VOL. VII

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THE BRITISH JOURNAL
OF
CHILDREN'S DISEASES

FOUNDED BY GEORGE CARPENTER, M.D.

VOL. VII

211003
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London
ADLARD AND SON, BARTHOLOMEW PRESS
BARTHOLOMEW CLOSE, E.C.

1910

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THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

VOL. VII.

JANUARY, 1910.

No. 73.

Original Articles.

MODERN METHODS OF INFANT FEEDING.*

By N. PERCY MARSH, M.B.Lond., M.R.C.S.,

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A STUDY of the Registrar-General's returns for the forty years which ended in 1900 shows that although the death-rate at all ages had fallen about 15 per cent., no such corresponding reduction could be recorded in the proportion of children's deaths under one year of age. Since the beginning of this century the rate of infantile mortality has shown an appreciable decline, and this we may assume is partly due to the increased interest the subject of the waste of infant life has received, and partly to the fact that recent seasons have been extremely favourable to the preservation of infant life. In 1899, the finest summer we have had for many years, the mortality reached 166 per 1000, the highest recorded during the past fifty years, whereas in 1907, in which the summer was cool and showery, it fell to 118. The great proportion of these deaths occur in infants artificially fed; in Liverpool the deaths from zymotic diarrhœa alone are fifteen times as great in the artificially fed as in the breast-fed infants under three months of age. It is therefore

* A paper read before the Liverpool Medical Institution, December the 2nd, 1909.

obvious that maternal nursing is one of the principal factors upon which we must rely in preventing this appalling mortality, and at the outset of this paper I feel I cannot too strongly emphasise the responsibility we incur when we undertake to direct the feeding of an infant during those months in which it ought by right to be nourished by its mother, and the still greater responsibility we incur when we advise the premature weaning of an infant, anyway until we have exhausted every means in our power to overcome the disturbance, be it in the mother or in the child, which is responsible for the malnutrition. Continued and persistent loss in weight, in spite of our utmost endeavours to rectify the fault, is the only condition under which the substitution of artificial feeding for maternal nursing is justifiable, except, of course, in those exceptional cases in which the health of the mother makes it compulsory.

Even with the greatest care artificial feeding can rarely be accomplished from the time of birth without more or less severe disturbance, and to be successful the method we adopt must so far imitate breast feeding that the various constituents of the food can not only be digested by the infant, but also without throwing too great a strain upon its assimilative capacity. Biological chemistry has not as yet sufficiently advanced to make it a safe guide by itself, but the bio-chemist has taught us once and for all that cow's milk, however scientifically and carefully prepared, can never be so modified as to be equal in chemical and nourishing properties to that of the mother. An important essential to successful feeding is a thorough knowledge and understanding of the differences, both qualitative and quantitative, which exist between the constituents of human and cow's milk. I shall therefore in the first place endeavour to describe these differences (as far as they are at present understood), and afterwards I shall describe the methods of feeding which I have adopted during the last few years, more especially in those cases where, owing to constitutional debility or previous improper methods, the digestive capacity of the infant has been so damaged as to make feeding by ordinary dilution an impossibility. A uniform method adapted to all cases does not exist, and it is only by the most careful consideration of the digestive capacity of each individual case that a suitable method can be arrived at.

Cow's milk of fair average quality contains 4.00 per cent. fat, 4.75 per cent. of sugar, 3.50 per cent. of proteins, and 0.70 per cent. of mineral salts, whereas human milk contains 4.00 per cent. of fat, 7.00 per cent. of sugar, 1.50 per cent. of proteins, and 0.20 per cent. of minerals. It is therefore obvious that whilst the fat content is

about equal in both, cow's milk contains considerably less sugar and two and a half times the amount of proteins as does human milk. The greater part of the fat in both is neutral, and consists of palmitin, stearin, and olein, but even these are in markedly different proportions. Furthermore, cow's milk contains a considerably larger proportion of the volatile glycerides composed of butyric, caproic, and other fatty acids, and it is interesting to note that Pipping* in 1891 could not detect butyric acid in healthy breast-fed children, whereas in children fed on cow's milk fatty acids were discovered in every instance.

The sugar in both milks is identical and is lactose in solution, but the differences in quantity are considerable; when possible it is advisable to use lactose in preference to cane-sugar in milk mixtures, as it is less liable to butyric fermentation.

The proteins in cow's milk are not only considerably more abundant but they also have marked differences in composition. They may be divided into the insoluble casein of milk curd and the soluble proteids, lactalbumin and lacto-globulin, which are still present in whey after the casein has been removed by coagulation with rennet. In woman's milk the soluble proteins are in excess of the insoluble casein in the proportion of 5 to 4, whereas in cow's milk the insoluble proteins are in excess in the proportion of 3 to 1. The caseinogen of cow's milk is easily coagulated by rennet and acids with the formation of a tough firm curd which is dissolved slowly by the digestive juices; the casein of woman's milk is not easily coagulated by rennet and only slightly by acids, and the curd formed is in loose small flakes and readily digested. Another and important difference is the power possessed by cow casein for taking up hydrochloric acid. Heubner has demonstrated that in breast-fed infants free HCl is found in the stomach in about an hour after a meal, but if cow's milk is used free HCl cannot be detected for two hours or longer. This shows the necessity of prolonging the feeding intervals in the artificially fed as compared with the breast-fed infant, otherwise the valuable antiseptic properties of the HCl are lost and fermentative changes in the food bound to occur.

The inorganic salts in cow's milk are three times as abundant as in woman's milk, and contain a relatively larger amount of calcium phosphate and a smaller amount of potassium salts; not only are these quantitative differences present, but more important still, the way in which they are combined with the proteins is very different in the two milks.

* 'Thesis,' Helsingfors, 1891.

Milk also contains a number of ferments or enzymes which are of great importance in nutrition, but their exact nature is not yet fully understood, nor has it been ascertained whether they are carried by the milk as a cell product or as a transudate. In addition to lipase, which splits up neutral fats into fatty acids and glycerine, they consist of amylotic, glycolytic, oxidising ferments and others. In a paper last year Professor Benjamin Moore suggested the importance of oxidase in the prevention of infantile scurvy. Since his paper I have only had one typical case, which made a good recovery upon oxidase kindly supplied by him, the infant throughout treatment being fed entirely on sterilised milk.

Lastly, cow's milk always contains a large number of bacteria whilst human milk is sterile; the number of organisms depends upon the age of the milk, the temperature at which it is kept, and the cleanliness adopted in milking and in storage, but these matters were so exhaustively brought before your notice by the sub-committee which reported upon this important subject a year ago that I need not dwell further upon them beyond emphasising the importance of cleanliness in every detail and also of rapidly cooling the milk as soon as drawn to 50° F. in order to inhibit the growth of the organisms.

One of the most important requirements of a substitute food is, that it should be as free as possible from these organisms; milk as delivered at our houses may contain according to the season of the year anything from 40,000 to 20,000,000 organisms per c.c. It is obvious that milk of this description is not fit for an infant's food, and heat is the usual method adopted for destroying the organisms. Some years ago it was considered necessary to heat it to 212° F. for an hour and a half, but it was soon found that the changes induced by this prolonged sterilisation were of such a nature as to seriously interfere with its nourishing properties; the change in taste, the constipation induced, and the occurrence of scurvy in a large number of babies fed with milk so treated led to a considerable modification in the process, and it is now found that by Pasteurisation, that is, subjecting the milk to a temperature of 155° F. for twenty minutes, all pathogenic organisms, including the tubercle bacillus and from 98 to 99 per cent. of the other organisms, are destroyed, whilst the taste and nutritional properties of the milk are little if at all impaired. The apparatus I use for this purpose is that devised by Freeman, and consists of a kettle into which fits a frame of ten cylindrical metal bottle-holders. Sufficient water is placed in each of the holders to surround the feeding tubes, each

tube containing the quantity of milk for one feed. The kettle is filled with water to a level marked by a rim and boiled; it is then removed from the fire and placed on a wooden table or other good non-conductor of heat, and the frame with the bottle is placed inside, the whole being covered with a lid and allowed to stand for thirty minutes. The volumes of milk and water have been so calculated that in ten minutes they are both at 155°F ., and the water contains heat enough to maintain this temperature for twenty minutes.

To reduce the amount of protein in cow's milk either water, lime-water or barley-water are usually employed, and during the past two years some interesting investigations have been made by T. Wood Clarke* at the Rockefeller Institute upon the effects of these milk modifiers on the gastric digestion of infants. His conclusions, briefly summarised, are: (1) The motility of the infant's stomach varies inversely with the concentration of the food—the more dilute the food the more frequently may the feeds be given. (2) Lime-water does not reduce the acidity of the gastric content; a portion of the acid is neutralised, but this is overcome by an increased stimulation of HCl by the gastric glands. This may even increase the amount of acid available for digestion. (3) Sodium citrate acts on the acid of the stomach, converting it into sodium chloride, and thus markedly reduces the available HCl. (4) Barley-water seems to have no constant effect upon the chemistry of gastric digestion in the infant.

If you compare the composition of cow's milk with that of human milk you find that in order to reduce the proteins to their proper proportion you have to dilute it with an equal part of water, but by so doing you reduce the fat and the carbohydrate in an equal proportion, the mixture in percentages reading fat 2.00, carbohydrate 2.25, and protein 1.75. In order to bring the fat and sugar to the necessary standard all that is necessary is to add to every 12 oz. of the mixture $\frac{1}{2}$ oz. of centrifugal cream and $\frac{1}{2}$ oz. of lactose, when you will have a mixture containing 3.9 per cent. of fat, 7 per cent. of sugar, and 1.75 per cent. of protein. I strongly emphasise the importance of using centrifugal cream, firstly, because it has a fairly constant fat content of 45 per cent., and secondly, if separated as soon as drawn it is comparatively free from organisms. Gravity cream, on the other hand, may be of any strength from 8 to 16 per cent. of fat, and has been shown to contain about 200 times as many organisms as ordinary milk; its use, therefore, unless carefully

* 'Amer. Journ. of Med. Sciences,' June, 1909.

sterilised, is certain sooner or later to be followed by gastrointestinal disturbance. For this reason I never advise the addition of cream in the out-patient department, and as a matter of practice we have found that by gradually diminishing the dilution of the milk the infants are able to digest a much stronger protein mixture than was formerly believed to be possible. No strict rule can be laid down as to the daily quantity which should be given, but for premature and weakly infants about one fifth of the body-weight, and for healthy infants about one seventh of the body-weight is the necessary allowance. The gastric capacity of the infant should also be borne in mind; at birth the stomach can retain 1 oz., at two weeks 2 oz., at three months 4½ oz., at six months 6 oz., and at 12 months 9 oz.

By feeding on these lines we rarely find the infants suffer from fat injuries, which are not unfrequent when cream mixtures are employed, and if there is difficulty with the proteins one or two grains of citrate of soda added to each ounce of milk will usually correct the difficulty. Sir Almroth Wright,* in 1893, first pointed out that the addition of sodium citrate considerably lessens the curdling from the rennin ferment, and, since Poynton's † paper in 1904, this method of treating protein difficulties has been much employed; whatever be its precise chemical action, there can be no doubt that in a large number of cases the digestion of proteins is greatly facilitated by its use.

The majority of infants fed in this manner do well, and the more difficult cases, when possible, I take into hospital and feed by the methods which I particularly wish to bring to your notice by this paper.

The efforts to place the food constituents in their proper ratio has led to what is known as "percentage feeding," and it is to the teaching of Rotch, of Harvard University, that we owe this very decided advance in our methods; to him also we are indebted for the establishment of the Walker Gordon Laboratories, where the food is made up by experienced chemists, who mix the quantities of centrifugal cream, fat-free milk, lactose, and water necessary to make the desired percentages; the mixture may be pasteurised or peptonised if desired, and is delivered in sealed feeding-tubes packed in an ice-box and ready for use. The milk used comes from the company's own farm, where the necessary precautions for supplying a pure milk are carried out in a most perfect manner.

* 'Lancet,' July the 22nd, 1893.

† *Ibid.*, August the 13th, 1904.

The advantages of employing a milk laboratory are enhanced by the fact that, not only can you order the fat and carbohydrate in the percentage suitable to the individual case, but the proteins can also be split up into caseinogen and whey proteins and given in the exact proportion in which they are present in human milk, or in any other percentage that may be desired.

As a good example of feeding by this method, I will briefly relate the case of B. B—, aged 3 months, whom I saw with Dr. Cuthbert Matthews last July. She was prematurely born and breast-fed for only a few days, when, owing to the failure of lactation, artificial feeding became necessary. Various modifications of milk, water, and cream were successively tried, but were all accompanied by vomiting, discomfort, the passage of unhealthy curdy motions, and loss of weight. An examination of the stools by Dr. O. T. Williams showed the presence of undigested protein, fatty acid crystals and soaps in excess with butyric fermentation, so we decided to commence with a Walker-Gordon mixture containing low percentages of all the constituents, and accordingly ordered one containing fat 2 per cent., sugar 4 per cent., caseinogen .50 per cent., and whey proteids .50 per cent., to be peptonised for fifteen minutes, and seven feeds of four ounces to be given in the twenty-four hours. Improvement in the symptoms was at once noted; the vomiting became less frequent and the stools more healthy, but, owing to the low percentage of fat and sugar, she did not gain in weight, although she ceased to lose. The fat, sugar, and whey proteins were therefore slowly increased, so that by July the 30th she was digesting fat 2.50 per cent., sugar 5 per cent., caseinogen .50 per cent., and whey protein .75 per cent., and had gained 9 oz. A month later she could assimilate 3 per cent. of fat, .50 per cent. of caseinogen, and 1 per cent. of whey protein, and had gained 2 lb. 10 oz.; and by October the 15th her weight had further increased by 2 lb., making a total increase of 4 lb. 10 oz. in exactly three months.

Another case which shows the value of this method, but in which the prognosis was hopeless, was that of baby T—, aged 5 months, whom I saw with Dr. Wright, of Chester, last June. She was healthy born, but bottle-fed on milk, cream, and water, and for nine weeks had been suffering from colic, vomiting, and large pultaceous, pale, offensive stools, with rapid loss in weight. The abdomen was so distended that chloroform had to be administered before a satisfactory examination could be made, when a large mass of tuberculous glands was felt to the right of the umbilicus. She was put on a

Walker Gordon mixture, containing fat 1 per cent., sugar 6 per cent., caseinogen .25 per cent., and whey protein .75 per cent., and the mixture was ordered to be pasteurised for twenty minutes at 155° F. The result was most gratifying, as the discomfort almost entirely disappeared, the vomiting ceased, and the character of the stools improved, and the increased comfort was maintained until her death some six weeks later. This case forcibly illustrates, not only the great relief to the gastric symptoms afforded by the method adopted, but further emphasises the importance of taking every precaution to eliminate the tubercle bacillus from the milk used for an infant's food; the closest investigation failed to trace any other possible source of infection other than the milk or cream, and this, unfortunately, is only one of many hundreds of infants who are annually sacrificed in this manner.

Milk supplied in this way must necessarily be somewhat costly, but thanks to the investigations of Holt and the chemists of the Walker Gordon Laboratories, we are now able by the use of so-called "top milk" to prepare at home percentage modifications which are sufficiently accurate for all practical purposes, and for their success all that is necessary is a pure fresh milk, an approximate knowledge of its composition, and clear and explicit directions in writing for the mother or nurse.

In applying this method at the Children's Infirmary I employ the three primary formulas suggested by Holt,* and they are :

- (1) Those in which the fat is to the proteins in the proportion of 3 to 1.
- (2) Those in which the fat is to the proteins in the proportion of 2 to 1.
- (3) Those in which the fat is to the protein in the proportion of 8 to 7, or about equal.

With these three formulas variations to suit the feeding in any particular case can easily be made; the first two series will be found most useful in young and delicate infants and in cases where the difficulty is with the proteins, whereas formula 3 is more suitable for older and more robust infants, or for those to whom it is desirable to give a low fat percentage.

The first series of formulas in which the fat is three times the protein, can be best obtained by drawing off the upper 11 oz. of a quart of "bottle milk" which has been standing for four hours; repeated examinations have shown this to consist of fat 10 per cent., sugar 4.3 per cent., and protein 3.3 per cent. To simplify calcula-

* 'Diseases of Infancy and Childhood,' 4th edit., p. 194.

tion a 20-oz. mixture must be made at one time, the number of ounces of top milk being added to the number of ounces of water required to make the mixture up to that amount. The percentage of any mixture made from this formula may be readily calculated by remembering that the percentage of fat is exactly one half the number of ounces of top milk used in the 20-oz. mixture and the percentage of protein is one third that of the fat. For example, suppose we use 6 oz. of 10 per cent. top milk in water to 20 oz. the percentage of fat will be one half the number of ounces used, or 3, and the percentage of proteins will be one third of this, or 1. One ounce of lime-water is usually added to the mixture, and in order to bring the percentage of sugar up to the required standard 1 oz. of lactose is also added. The prescription when complete will therefore read:

10 per cent. top milk	3vj
Lactose	3j
Lime-water	3j
Water ad.	3 xx

which in percentages is equal to fat 3 per cent., sugar 6 per cent., proteins 1 per cent., and alkalinity 5 per cent. Suppose we wish to give seven feeds of 4 oz. each in the twenty-four hours, we fill each feeding-tube with 4 oz. of the mixture, pasteurise for twenty minutes, and all that is then necessary is to warm each tube when required for feeding; we thus at one time prepare all the food required for twenty-four hours.

The second series of formulas, or those in which the fats are twice the proteins, are obtained by drawing off the upper 16 oz. of a quart of "bottle milk" which has stood for four hours. Such a top milk contains of fat 7 per cent., sugar 4.4 per cent., and proteins 3.5 per cent., and from this the second series of mixtures are obtained by dilution in a manner exactly similar to the first. The percentages in these formulas may be calculated by remembering that the percentage of fat is one third the number of ounces of top milk used in the 20-oz. mixture and the percentage of proteins will be one half that of the fat.

For the third series of formulas, in which the fat and proteins are about equal, we use whole milk or fat 4 per cent., sugar 4.5 per cent., and proteins 3.5 per cent. To calculate the percentage of fat in a 20-oz. mixture we remember that the fat is four twentieths or one fifth the number of ounces of milk used. The percentage of any constituent in a mixture may be worked out by multiplying its percentage in the original milk, top milk, or cream

by the number of ounces of each in the food and dividing by the number of ounces prepared. For example, supposing we are using 15 oz. of whole milk and 1 oz. of centrifugal cream in a 30 oz. mixture, to find the percentage of fat we multiply 4, its percentage in milk, by 15, which equals 60; we then multiply 45, the percentage of fat in the cream, by 1, which equals 45; these added together equal 105, and divided by 30, the number of ounces in the mixture, we get 3·5, which is the percentage of fat. Similarly, to find the protein we multiply 3·5 by 15, which equals 52·5, and then divide by 30, which gives 1·7, the percentage of protein.

Some difficulty may arise in determining with what percentages we should commence feeding, and as a general rule it is best to begin with them all low and gradually increase every few days the fat at the rate of ·25 per cent. and the proteins by about one half of this, always being guided by the weight-curve and the character of the stools. The infants upon whom I have applied these methods have all been suffering from considerable malnutrition the result of digestive disturbance, and I therefore have usually commenced with weak mixtures made from either formula 1 or 2. Thus, John C—, aged 6 weeks, was healthy born and breast-fed for only a week; he was then put on a feed consisting of two parts of milk to one of water—much too strong for an infant only a week old—and consequently diarrhœa set in with five to six green, offensive stools daily. This condition continued until admission, five weeks later, when he weighed only 6 lb. 2 oz., the normal weight for a child of that age being 10 lb. 4 oz. For eighteen hours he was given 5 per cent. lactose solution, at the end of which time he was put on a mixture containing 4 oz. of 10 per cent top milk, with 1 oz. of lactose and 1 oz. of lime-water, and of this he was given 2 oz. every three hours. On September the 13th, a week after admission, he had gained 8 oz., the diarrhœa had ceased, and the motions contained only a slight curd. The mixture was increased by 1 oz., and now read, fat 2·5 per cent. and protein ·80 per cent. By the 20th he had gained another 8 oz. and weighed 7 lb. 2 oz., and the stools were homogeneous and healthy.

The food was now changed to 7 per cent. top milk, of which he was given 6 oz. in the 20-oz. mixture, and which equalled fat 2·1 per cent and protein 1·05 per cent., 3 oz. being given every three hours, and by October the 4th he weighed 8 lb. The rapid advance in weight, the improvement in the infant's condition, and the desire of his mother to have him home now tempted me to try a weak whole-milk mixture, which proved a great mistake, for although for

the first few days he continued to increase in weight, diarrhœa again set in, and during the following week his weight fell to 6 lb. 14 oz. On October the 19th 7 per cent. top milk was again tried, 7 oz. in the 20-oz. mixture being given with the happiest results, for the diarrhœa was at once arrested, and after a few days the weight commenced again to rise, so that by October the 30th he weighed 7 lb. 4 oz.; the stools, two daily, were homogeneous and yellow, and he was taking 3-oz. feeds containing fat 2 per cent., sugar 6 per cent., and protein 1 per cent. in a most satisfactory manner. From this time onward his progress was uninterrupted, and by November the 30th he weighed 8 lb. 14 oz.

Another case of equal interest is that of Mona T—, who was sent to me by Dr. Agnew with a history of having been healthy born and breast fed for six weeks; she then began to vomit, and owing to the persistence of this symptom and the gradual but progressive loss in weight she was taken off the breast and given a mixture of 1 part milk to 2 of water with half a teaspoonful of cream in every alternate feed. As the vomiting continued barley-water was tried instead of water but was equally unsuccessful, and finally Allenbury's food No. 1, but the infant continued to vomit and to lose weight. On October the 12th she was poorly nourished, anæmic, and weighed 8 lb. 7 oz.; the bowels were moved once a day, but were pale, offensive and curdy. She was put on a mixture containing 6 oz. of 7 per cent. top milk or 2 per cent. fat, 6 per cent. sugar, and 1 per cent. protein, 4 oz. being given every three hours. As she digested this well and there was no vomiting the strength of the mixture was increased every alternate day by .25 per cent. of fat, so that on October the 19th she was taking fat 3 per cent., sugar 7 per cent., and protein 1.50 per cent., and had gained 9 oz. On October the 24th, when she weighed 9 lb. 8 oz., the quantity of each feed was increased by two teaspoonfuls, and on October the 1st, when she had further gained another 6 oz. and weighed 9 lb. 14 oz., the amount of each feed was again increased by two teaspoonfuls. The infant had now a healthy appearance and the stools were yellow, well digested and healthy-looking, and her general progress was uninterrupted until her discharge from hospital, her weight being 11 lb. 12 oz. Here, then, are two cases both of which were rapidly drifting into hopeless malnutrition, the one owing to improper methods of feeding, the other in which the food was skilfully directed but totally failed owing to the weakened assimilative capacity of the infant, yet both responded to the percentage system in a manner which surpassed my most sanguine

expectations. For the successful conduct of these cases regular weighing of the infant and routine inspection of the napkins are most necessary, and it is especially important to determine whether the masses of curd so frequently seen are due to undigested proteins or to fat and fat compounds; these can be distinguished by their colour, their microscopic appearance and their chemical reactions. Casein curds in the stools are usually accompanied by flatulency and colic and are due to too high proteins; this can be rectified without interfering with the fat by changing to a formula in which the protein proportion is lower, for example, from a 7 per cent. top milk in which the proteins are one half the fat to a 10 per cent. top milk in which they are one third. Loose, green, offensive stools of an acid odour are due to too high fat or too high sugar, and large, white, dry stools are nearly always due to too high fat. Vomiting soon after a meal can usually be checked by reducing the quantity and increasing the interval between the feeds, but vomiting of sour curd one to two hours after the meal is usually indicative of too high fat, and can be rectified by reducing the fat content by using a 7 per cent. in place of a 10 per cent. top milk or preparing mixtures from whole milk.

These, then, are the methods of substitute feeding which I have of recent years adopted—methods which I fear I have very inadequately laid before you, and not with that lucidity their importance deserves. I do not claim for them that precision which a milk laboratory affords, but I can with confidence affirm that, after many years' experience in various methods of feeding, they are far and away in advance of any I have hitherto adopted, and if others will only give them a trial I feel assured that they, too, will be gratified at the results they will obtain, and will have the satisfaction of knowing that they are in some small measure assisting in diminishing the enormous infant mortality which is at the present time a blot upon every civilised country.

In conclusion I would tender my thanks to Dr. O. T. Williams, not only for helpful guidance by examination, of the faeces in many of my cases, but for much other useful information, and also to the sisters and nurses of my ward, without whose skilful and zealous co-operation no system of feeding, however scientifically devised, could be carried to a successful issue.

NEURO-FIBROMATOSIS OF THE TONGUE IN A CHILD,
TOGETHER WITH A NOTE ON THE CLASSIFICATION
OF INCOMPLETE AND ANOMALOUS CASES OF
RECKLINGHAUSEN'S DISEASE.

By F. PARKES WEBER, M.D., F.R.C.P.,

Physician to the German Hospital, London.

THE patient, J. D—, a rather delicate-looking boy, aged 6 years when brought to the hospital, had a hard swelling below the tongue, which, according to the mother, had been almost certainly observed when the child was ten months old. The tumour in question (April, 1909) formed an oval projection (about 5 and 10 mm. in breadth



FIG. 1.—To show the position of the tumour under the tongue.

and length respectively) on the under surface of the tongue, situated along the right side of, and parallel to, the frænum linguæ, about half way between the tip of the tongue and the orifices of Wharton's ducts (see Fig. 1). The surface of the projecting tumour, which was apparently covered by healthy mucons membrane, was partly whitish and partly reddish in colour. No evidence of disease in the thoracic or abdominal viscera could be detected, and the general health of the boy appeared satisfactory in spite of his somewhat delicate appearance.

The projecting portion of the tumour was kindly removed for me by Dr. Pfister; and Dr. J. C. G. Ledingham, to whom I am much indebted, kindly examined it microscopically. Sections (see Fig. 2)

showed bundles of medullated nerve-fibres bound together by a close connective-tissue stroma. The tumour was evidently neuro-fibromatous, and a hard cord still remains to the right of the boy's frænum linguae, doubtless representing part of the lingual branch of the fifth cranial nerve.

I regard the tumour as a mild form of plexiform neuroma involving one side of the tongue; in fact, I believe the condition to be a lesser degree of the "macroglossia (or rather hemi-macroglossia) neuro-fibromatosa" described by Abbott and Shattock in 1903,* and by Spencer and Shattock in 1907.† The case is, therefore, according

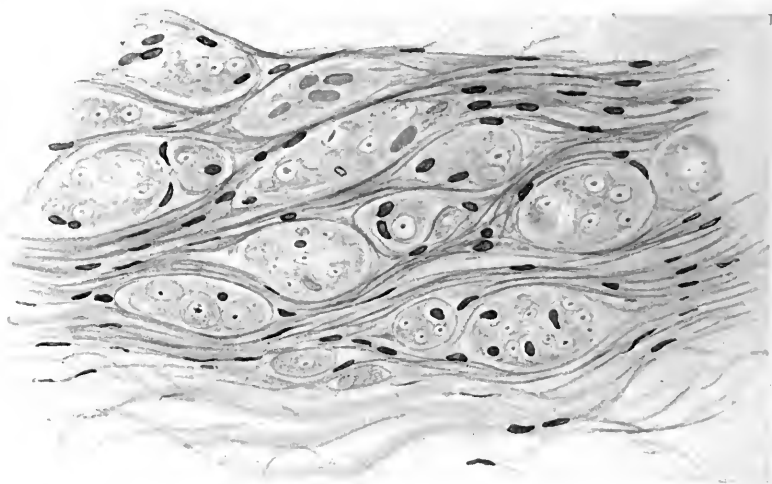


FIG. 2.—Microscopic section of a portion of the tumour, showing medullated nerve-fibres.

to my classification, likewise to be considered as an (at least as yet) incomplete form of Recklinghausen's disease, and in this connection it is interesting to note that there is a somewhat irregularly shaped *café au lait* patch of cutaneous pigmentation, occupying an area of three or four square inches, on the upper part of the front of the boy's left thigh. The mother thinks this patch of pigmentation was present from birth, in which case it might be termed "a superficial pigment-naevus." There is no abnormal pigmentation elsewhere on the body or limbs, nor are any neuro-fibromata detected except in the tongue. In this connection it may also be mentioned that a

* Abbott and Shattock, 'Trans. Path. Soc., Lond.,' 1903, vol. liv, p. 231.

† Spencer and Shattock, 'Proc. Roy. Soc. Med.,' Pathological Section, 1908, vol. i, p. 8.

sister (aged $10\frac{1}{2}$ years) of the patient has a small, flaccid ("empty"), molluscous-like tumour on the body (on the lower part of the sacral region to the left of the middle line), which is supposed to have been present at birth. She has no other tumours and no abnormal cutaneous pigmentation.

Though, strictly speaking, the term "Recklinghausen's disease" should be reserved for cases showing (1) obvious neuro-fibromata in connection with nerve-trunks, (2) molluscous tumours (*mollusca fibrosa*) of the skin, and (3) cutaneous pigmentation, yet incomplete forms occur in which one or even two of this triad of morbid features may be wanting. I would classify the anomalous or incomplete forms of Recklinghausen's disease as follows:

(1) Cases of plexiform neuroma and "elephantiasis nervorum" unaccompanied by multiple molluscous tumours of the skin, with or without cutaneous pigmentation. The least uncommon situations for these tumours are, perhaps, on the face and head. Into this group fall cases like the present one, and those of "macroglossia neuro-fibromatosa," already referred to.

(2) Cases of multiple molluscous tumours of the skin unaccompanied by any obvious neuro-fibromatosis of nerve-trunks, with or without decided cutaneous pigmentation.

(3) Cases of pigmentation of the skin not (or at least not as yet) accompanied by obvious neuro-fibromata of nerve-trunks or cutaneous neuro-fibromata (molluscous tumours). This class includes clinically all cases of cutaneous pigmentation of a kind similar to that met with in Recklinghausen's disease before the development of obvious neuro-fibromata,* though in such cases there may be neuro-fibromata present which cannot yet be detected by clinical examination. This class was not specially recognised, or given a special place, in Alexis Thomson's classical monograph, 'On Neuroma and Neuro-fibromatosis,' published at Edinburgh in 1900.

(4) Anomalous cases of neuro-fibromatosis, complicated by the co-existence of bony or epidermic (papillomatous) changes. Benakyt† described an example of this class under the heading, "General Neuro-fibromatosis, with *Molluscum Pendulum* of the Right Side of the Face." In his case there were deformities of the cranium, vertebrae, and tibia. In February, 1906, Mr. Ludford Cooper brought forward a case at the Ophthalmological Society, which he described as "neuromatous elephantiasis," in a girl, aged 11 years. In Cooper's

* Cf. F. P. Weber, "Cutaneous Pigmentation as an Incomplete Form of Recklinghausen's Disease," 'Brit. Journ. Derm.,' London, 1909, vol xxi, p. 49.

† 'Ann. de Derm. et de Syph.,' Paris, November, 1904, p. 977.

case the outer and lower portions of the frontal bone and the squamous portion of the temporal bone were much more prominent on the affected than on the other side. In 1901 Sir Jonathan Hutchinson* described and figured the case of a woman with multiple molluscos tumours of the skin, whose right cheek was bulged by bony overgrowth; the right frontal bone was likewise thickened, and the right eye was pushed forward as if by bony growth behind it. At the Society for the Study of Disease in Children, in April, 1907, Dr. Fletcher Beach† showed a case described as one of Recklinghausen's disease, in a boy, aged 5 years and 10 months, who apparently also had bony thickening in the right temporal region. The most extreme example of this class was doubtless the famous "elephant man," whom many must have seen when he was at the London Hospital. Sir Frederick Treves,‡ in his description of this "elephant man," mentioned that the deformities of the osseous system were limited to the skull, right upper-extremity, and feet. "The proportions of the head were enormously increased, and its general outline was that of a hydrocephalic skull." There was exuberant papillomatous growth of some parts of his skin.

CARIOUS TEETH IN ELEMENTARY SCHOOL CHILDREN.

By F. E. LARKINS, M.D., D.P.H.

IN the daily examination of school children the most common defect seen is decayed teeth. In my district the following percentages show the actual amount found for the four different age-periods examined :

Aged 13	.	.	.	.	.	64 per cent.
„ 10	.	.	.	.	.	77 „
„ 7	.	.	.	.	.	82 „
„ 5	.	.	.	.	.	80 „

These figures under-state the actual amount of caries, because we use no probe and mirror, so that it is highly probable that some 10 per cent. of cases are overlooked.

I was so impressed by this astounding state of the mouths that

* 'Polyclinic,' London, July, 1901, p. 12.

† 'Reports of the Society for the Study of Disease in Children,' London, 1907, vol. vii, p. 167.

‡ 'Trans. Path. Soc., Lond.,' 1885, vol. xxxvi, p. 494.

I naturally asked myself the question, Does it really have any bad effect on the general health of the children?

The most ready means of getting an answer that I could think of was by studying the weights of the children in relation to their teeth. This I have done with 1000 consecutive children, aged 5 years. I limited myself to five-year-old children, because at that age there have been fewer opportunities for other causes to have affected the general health than later. Only the temporary teeth, therefore, come into consideration in this paper, but if it is shown that they have an injurious effect, I take it that it follows that carious permanent teeth will have a similar effect.

First of all I classified the children in three groups, according as to whether their teeth were good, medium, or bad. "Good" I called those with clean teeth and no apparent decay; "bad" were those with several badly decayed teeth, with rotten stumps or with pus. The result was as follows:

Those classified as "good"	.	.	averaged 41.54 lb.
" "	"medium"	.	" 39.18 "
" "	"bad"	.	" 38.85 "

Or, in other words, the bad ones averaged 2.69 lb. less than the good ones, which is equivalent to a loss of six months—a very serious handicap at that age.

This method has the fault that no two people would be likely to judge the mouths alike, so to get rid of the personal element I tried another way, *i.e.* that of classifying the children according to the number of carious teeth present. In this method, then, is a point that should not be overlooked, *i.e.* that the older a child is the more decayed teeth is it likely to have, so that the more decayed teeth that are found the heavier the child should be if caries has no retarding effect.

Comparisons should be made with those children of exactly the same age to a month, but this I was unable to do. I have divided them up into equal heights, but this, again, is quite against proving the point, because, for example, consider two children 42 in. high: one is exactly five and tall for its age, possibly with no caries; it is certain to weigh less than another just under six, short for its age, but sure to have some decayed teeth. However, if this is borne in mind the results shown in the table are all the more convincing. As it is those with no caries are seen to average more than the rest in every column except the 45 in. one, but in this the numbers were so small as not to be of much account.

Thus it seems clear to me that the more caries there is in a child's mouth the more is its general health and development retarded.

Table showing Average Weights on Numerical Classification.

Height.	No decayed teeth.	1-4.	5-8.	9-12.	13 and over.
37 in. and under	33·7	32·4	31·86	30·00	—
38 „	34·85	34·53	34·7	34·6	33·5
39 „	36·26	36·00	35·5	35·66	37·5
40 „	37·51	37·33	34·5	36·57	36·5
41 „	39·95	39·07	38·75	38·26	40·00
42 „	41·85	40·87	41·48	40·92	39·75
43 „	44·21	42·83	42·15	43·40	39·66
44 „	46·64	44·42	44·05	43·80	—
45 „	46·00	46·5	47·14	46·75	—
46 „ and over	—	47·50	47·00	42·5	48·5

If this is so does it not also follow that its resistance to the infections will be lessened? I think it does, and in support of this I find that in a number of children aged 5 years whose records I have looked up, those who have had measles (to take the most common of the infections as an example) had sound teeth in only 20·9 per cent., whereas in those that had not had measles the teeth were sound in 43·9 per cent. It may be argued that the measles caused the decay, but I think that in most cases the interval between the attack of measles and the examination of the child was too short to admit of this explanation.

Now, admitting the general prevalence of this scourge and its deleterious effects, one wants to know how to stop it, and, consequently, what are its causes. No doubt the dentists can tell us fully, but one cannot help being struck by two things: (1) The higher the social scale the worse the teeth are; and (2) the teeth are worse in bottle-fed babies.

To a certain extent these two facts coincide, but I think the explanation of the first lies in the fact that the child is kept too long on slops and baby fodder instead of being given something to use its teeth on earlier. I do not see why a properly bottle-fed baby should fare worse than a breast-fed one; the presumption is that they usually are not properly fed. I find that the bottle-fed baby has not only more often got caries than its breast-fed neighbour, but when caries is present in both it occurs to a greater extent in the bottle-fed one. I therefore consider that next to due attention to the pregnant mother, great importance lies in the gospel of breast feeding and of giving the teeth something to exercise their proper function on early.

Provincial Societies.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

December the 17th, 1909.

A Case of Adhesive Mediastinitis.—Dr. A. G. BARRS showed a boy, aged 9 years. Admitted September the 20th, with signs of fluid at the left apex and pericarditis. Pneumococcus obtained in pure culture from fluid taken from chest. Pericardial rub persisted for some weeks. Present condition: Marked cyanosis with, at times, dyspnoea and cough; signs of cardiac enlargement, with dullness in left chest and at right base; hepatic enlargement, ascites and some oedema of the legs. Abdomen has been tapped.

A Case of Cerebral Tumour.—Dr. T. CHURTON showed a girl, aged 10 years. History of a fit in July, 1908, and a fall. A second fit in September, 1909. Previous to admission on October the 20th headache, vomiting, failing sight, affection of speech, gait, and sphincters. At the same time patient began to put on weight rapidly. Patient's condition: Patient unable to sit up by herself. Some inco-ordination of arms. Ankle clonus. Affection of sphincters. Marked optic neuritis. Mental condition much brighter, though headache is still present. Still gaining weight rapidly.

A Case of Birth Palsy, showing almost Complete Recovery.—Dr. E. F. TREVELYAN showed a girl, aged 5 months. Instruments at birth. Left arm noticed to be paralysed after birth. Present condition: Nearly all movements are now visible in the arm except external rotation. Improving.

A Case of Tuberculous Laryngitis in a Child; Tracheotomy.—Dr. E. F. TREVELYAN showed a girl, aged 9 years. There is well-marked infiltration of epiglottis. Rest of larynx not easily seen. There was marked stridor before tracheotomy was done. No evidence of syphilis. Now well-marked signs in chest.

Cases of Dermoid Tumour of Cornea.—Mr. MICHAEL TEALE showed (1) a boy, aged 11 years. Left eye shows a flat, circular tumour lying across the corneal margin, with dry epidermoid surface. Present since birth. Not increasing in size. Produces no discomfort. No other congenital anomaly found. (2) A girl, aged 4 years. Tumour lying across corneal margin. Noticed since birth. Thought to be enlarging.

A Case of Congenital Syphilitic Arthritis.—Dr. MAXWELL TELLING showed a boy, aged 15 years. When first seen October the 4th, 1909, both knees swollen and containing fluid; had been so for twelve months. Periostitis of both tibiae; more marked in left. Deafness for five months; notching of one upper incisor.

A Case of Hemiplegic Choreiform Movements.—Dr. MAXWELL TELLING showed a man, aged 25 years. Marked involuntary movements of left hand since eleven years old; no definite onset. In 1895 admitted to infirmary, and diagnosed "intra-cranial disease" (then had double optic neuritis).

LIVERPOOL MEDICAL INSTITUTION.

December the 2nd, 1909.

A Case of Congenital Tumour of the Right Foot.—Mr. R. C. DUN showed a male, aged 18 months. The tumour was relatively the same size as at birth. The anterior half of the foot was increased to double the normal size, the enlargement involving both the dorsal and plantar aspects. The growth was soft, non-fluctuating, painless, and attached to the skin in parts. The skin over it was normal in appearance. The toes were not involved, and a X-ray photograph showed no bony changes.

A Case of Congenital Deficiency of Ribs.—Mr. R. C. DUN showed an infant, aged 5 months. In the anterior axillary line on the right side about one inch of the third, fourth, and fifth ribs was absent. The ends of the defective ribs could be distinctly felt. The pleura and lung were ballooned outwards through the gap in the bony wall of the chest when the child cried. The right pectoral muscles and mamma were imperfectly developed. No other congenital defects were present.

A Case of a Large Congenital Lumbo-sacral Tumour Associated with Paralysis of the Lower Extremities.—Mr. R. C. DUN showed a girl, aged 3 years. The tumour was rather larger than a cricket ball, and was covered with normal skin. A dimple was present in the right lower quadrant, in addition to a well-marked post-anal dimple situated immediately below the tumour. On palpation the tumour was found to vary in consistence: the upper portion was solid, and in it a well-marked bony or cartilaginous process could be felt, which was free distally and joined to the left side of the sacrum proximally. The lower part of the tumour contained fluid, but there was no increase in tension when the child cried.

A Case of Complete Extroversion of the Bladder and Epispadias.—Mr. R. C. DUN showed a boy, aged $2\frac{1}{2}$ years, in whom it was proposed to transplant the ureters into the sigmoid flexure.

A Case of Cerebellar Tumour.—Dr. N. PERCY MARSH showed a girl, aged 4 years, with cerebellar tumour with typical signs and symptoms, viz. headache, vomiting, double optic neuritis, paralysis of the left sixth nerve, nystagmus, weakness of conjugate movements, and inco-ordination with typical staggering gait. She had an attack of measles in February, 1909, and the head symptoms commenced in March.

A Case of Diffuse Encephalitis.—Dr. N. PERCY MARSH showed a boy, aged 6 years, with diffuse encephalitis following measles. During convalescence from the attack he suddenly vomited and lost consciousness, and ten days later, when consciousness returned, was found to be speechless and to have lost power in all his muscles. On admission, six weeks later, he was unable to sit up or even hold his head up, and was speechless; there was pronounced ataxia of all the limbs and paralysis of the left sixth nerve; no optic neuritis or paralysis of other cranial nerves. He is slowly improving, speech is returning, but his mental condition is defective. The lesion is extensive, probably involving the mesencephalon and the cerebellum.

A Case of Encephalitis Following a Fall.—Dr. N. PERCY MARSH showed a girl, aged 4 years, with encephalitis following a fall, a week after which she became very irritable and restless and developed marked tremors affecting all the limbs and trunk; she was unable to stand. She is improving, and tremors are now only seen during muscular action or excitement. There is no optic neuritis, no headache, no vomiting. The lesion here is probably in the cerebello-rubio-spinal tract.

A Paper entitled "Modern Methods of Infant Feeding" was read by Dr. PERCY MARSH, who introduced the subject by pointing out the importance of maternal nursing as a factor in reducing the present high mortality amongst infants. He then described in detail the differences, both qualitative and quantitative, which exist between human and cow's milk, the importance of the enzymes in nutrition, and the desirability of avoiding their destruction by the employment of sterilisation; he therefore recommended pasteurisation at 155° F. for the destruction of bacteria in the milk, and described Freeman's apparatus which he used for that purpose. He strongly advocated the percentage method of feeding, especially in those cases of malnutrition in which the assimilative capacity of the infant had been greatly impaired by previous improper methods. The details of percentage feeding were then described: firstly, when employed through the agency of milk laboratories, and secondly, the home methods as advocated by Holt, in which, by the use of "top milks" containing 10 per cent. or 7 per cent. of fat, variations in the fats and proteins to suit the requirements of any particular case could readily be obtained. Cases illustrating the methods employed were described, and also the manner of obtaining the "top milks." In conclusion the author stated his belief that the percentage system of feeding was far and away in advance of any method which he had, in an experience extending over many years, previously adopted.

NORWICH MEDICO-CHIRURGICAL SOCIETY.

November Meeting.

A Case of Persistent Muscular Spasm.—Dr. CLEVELAND showed a case of persistent muscular spasm affecting all the muscles of the body except those of the head and neck. The patient was a boy, aged 1 year and 8 months. He was admitted into the Jenny Lind Children's Hospital in May, 1909, for wasting. His general condition improved under treatment, but the state of the muscles remained unaltered. The family history is unimportant. On admission he showed no marked signs of rickets, had nine teeth, and the fontanelle was nearly closed. Until the age of three months he was a healthy baby, but since then he has always been wasted. Has not suffered from sickness, but has always been constipated. In spite of his wasted appearance the muscles below the neck are easily seen, and stand out much as do those of a trained athlete. Thus the outlines of the biceps, triceps, and the extensors of the forearm can be readily distinguished. The gastrocnemii are equally obvious. When contracted the muscles feel hard, but when, as occasionally happens, the spasm is relaxed for a short time, the muscles are quite soft. The pectoral and abdominal muscles are

similarly affected. In striking contrast are the muscles of the neck. If the child is sat up the head falls backward, giving at first the impression that it is retracted. The face muscles show no abnormality. He is mentally deficient, but apparently has good voluntary movement of his limbs. The hands are generally clenched—he “makes a fist” with the fingers over the thumb. He shows none of the signs of tetany. The electrical excitability of the muscles is not increased. The plantar reflex is flexor, the knee-jerks equal and brisk, and there are no abnormal reflexes. Tactile sensation is good. The discs are normal. The child can be lifted by its limbs in almost any position, as if it had *rigor mortis*; only the head falls back. While under observation the child developed a syphilitic rash. The clinical picture is not at all like that of “Little’s disease,” although the mental deficiency and the distribution of the “spasm” point to the fault being in the cerebral cortex.

Decompression Operation Performed over the Cerebellum.—Mr. H. A. BALLANCE showed a little girl, aged $5\frac{1}{2}$ years, seven and a half weeks after a decompression operation performed over the cerebellum. The child had been ill for ten weeks prior to operation; headache, vomiting, double optic neuritis, impaired vision, and great wasting were present, and had been gradually increasing in severity. There was no inco-ordination of the limbs, but slight nystagmus and weakness of the right side of the face were observed. The bone over both cerebellar lobes was removed, and the dura mater over the right. There was great excess of cerebro-spinal fluid, and many meningeal adhesions between the right lobe of the cerebellum and the dura lining the occipital fossa. These were broken down, and the cerebellum, which had bulged greatly on opening the dura, resumed its normal position. No tubercles were seen. The child has recovered, with a hernia at the site of operation; the optic neuritis and all the symptoms have quite disappeared.

A Case of Deformity of Lower Limbs.—Mr. J. BURFIELD showed a boy, aged 6 months, born with the following abnormalities: In both legs the fibulae are absent. There are only three toes on each foot; the two corresponding metatarsal bones to the absent toes are suppressed. In the right leg the tibia is curved anteriorly and acutely at the junction of its middle and lower thirds, forming a marked prominence under the skin, and leading to considerable shortening. This curve has been increasing since birth, and is probably due to the tension of the flexor muscles of the calf, and also accounts for the fact that the posterior surface of the os calcis is considerably above the lower articular surface of the tibia. There is marked talipes equinus on this side.

Philadelphia Pediatric Society.

MEETING, December the 14th, 1909, J. CLAXTON GITTINGS, M.D., President.

Hystero-epilepsy Associated with Bothriocephalus Latus Infection.—Dr. HOWARD CHILDS CARPENTER showed a girl, aged 8 years, with hystero-epilepsy, infected with the *Bothriocephalus latus*. The child was born in Ireland, and was probably infected by eating uncooked pike. Links were first seen in the stools when she was three years old. For fifteen months

she has been subject to general epileptiform convulsions, varying from one to fifteen convulsions a month; lately, in addition to these, she has had typical hysterical attacks. On four occasions long pieces of the worm have been passed, but as yet the head has not been obtained. Her blood shows a very moderate anæmia.

Dr. J. P. CROZER GRIFFITH said that although *Bothriocephalus latus* is rare in this country, without doubt more cases occurred than were reported. He had himself seen one in a Swedish woman, several years ago, which he had not published. The patient showed the symptoms of pernicious anæmia, such as the presence of this worm can readily occasion. It is to be noted that in the child exhibited to-night there is no marked anæmia. Dr. Griffith thought that she was suffering from epilepsy, but that with it was combined a distinct element of hysteria.

Extreme Enlargement of Liver and Spleen.—Dr. C. W. SCHAEFFER, by invitation, showed this case, in a girl, aged 11 months. Family history was negative, the family being noted for its longevity. She was never ill until September, 1909, when the mother first noted the enlarged abdomen, which has been increasing in size gradually since then. Examination revealed a spleen extending from the eighth rib above to a scant finger's breadth from the iliac spine and about three fingers' breadth from the symphysis pubis. The liver extends downward to three fingers' breadth from the right iliac spine. Both organs seem firmer than normal, but their surfaces are smooth and no nodules could be detected. There are no other symptoms. She is well nourished, has not lost weight, and digestion is good. Blood examination shows red blood cells, 3,660,000; leucocytes, 13,150; hæmoglobin, 58 per cent.; differential count gave polynuclears 46 per cent.; lymphocytes, 49 per cent.; mononuclears, 1 per cent.; eosinophiles, 1 per cent.; basophiles, 1 per cent.; and transitionals, 2 per cent. The urine shows slight trace of albumin. The von Pirquet test was positive, while the Noguchi test, made from spinal fluid, was positively negative. Dr. Schaeffer made the provisional diagnosis of splenic anæmia, due probably to an undiscovered tuberculous lesion. Syphilis, cirrhosis of liver, leukæmia, and pernicious anæmia were excluded, while the pseudo-leukæmia of von Jaksch and a malignant growth were admitted as possible.

Dr. ALFRED HAND, jun., said that physical examination was always very unsatisfactory in this patient; several conditions were suggested by the child's appearance, the first being tuberculosis, in view of the rigid abdominal walls and the positive von Pirquet reaction; but the tuberculosis may be elsewhere, and the child is not yet greatly emaciated, so that syphilis was next thought of, and Dr. Hand advised the therapeutic test in spite of the negative Noguchi-Wassermann reaction. Other possibilities are general enlargement of liver and spleen secondary to some gastro-intestinal infection, analogous to von Jaksch's pseudo-leukæmic anæmia, and lastly, neoplasia.

Dr. GRIFFITHS had examined this child under anæsthesia. The liver and spleen were greatly enlarged, firm and regular in outline, with rounded edges, but without any suggestion of new growth. The lower right quadrant of the abdomen was tympanitic, and ascites could not be demonstrated, neither could any masses be palpated. From all the evidence at hand the child had been unusually free from digestive disorders or any other illness, and there were no signs of rachitis. The anæmia is very mild and progresses very slowly. The clinical picture and previous history are, therefore, unlike those usually seen in so-called splenic anæmia or in von Jaksch's anæmia.

In this connection it is interesting to note the cases of idiopathic splenic enlargement reported by Bovaird ('Amer. Journ. Med. Sci.,' 1900), and others previously studied by the French, notably Bouchard; in these the enlargement was due to endothelial proliferation, but the marked coincident enlargement of the liver seen in Dr. Schaeffer's case was lacking. In regard to the question of syphilis, both the negative Noguchi test and the absence of all other corroborative signs are strong evidence against it. Nevertheless he believes, with Dr. Hand, that mercurial treatment should be instituted. Further study of the blood will probably determine the diagnosis.

Congenital Heart Disease.—Dr. CHARLES A. FIFE showed this case, a boy, aged $3\frac{1}{2}$ years, because of the unusual degree of cyanosis, the excessive clubbing of fingers and toes, the peculiar shape of the heart, and the absence of a murmur, which at one time was clearly heard. This child is the seventh of eight children; all the others reported normal, as are the parents. No other heart disease known in the family. No syphilis or tuberculosis. Birth was normal, though the mother was greatly underfed during pregnancy and lactation. The child seemed healthy until the tenth month, when cyanosis of feet and hands were first noted. Cyanosis increased in intensity, and was general on admission to the hospital six months ago, the skin being dusky, the mucous membranes dark purple. All that time clubbing of fingers and toes was as well marked as at present. The child is fairly intelligent, repeating words and sentences, but he does not often form sentences. He makes no effort to stand or walk. The head is large, overhanging, with greatest circumference $20\frac{1}{2}$ in. Fontanelle is closed, but the depression is still very marked. Respirations average thirty per minute, but he frequently becomes very dyspnoic, and on several occasions seemed to have anginoid attacks. There have been no convulsions. The pulse is very variable, but is usually about 110 per minute. Temperature is inclined to be subnormal, but is generally above normal in the afternoon. Urine examination is negative. Blood-count showed 7,410,000 reds and 7120 whites on June the 1st, 1909; 9,040,000 reds and 110 per cent. hæmoglobin on November the 28th, 1909; and 8,980,000 reds, 7800 leucocytes, and 115 per cent. hæmoglobin on December the 1st, 1909. Dr. T. B. Holloway reports the following examination of the eye-grounds: "Cyanosis of conjunctiva, marked congestive appearance of each disc, giving it a dusky red appearance. Dilatation of smaller vessels about disc. Veins enormously dilated, tortuous, and very dark, and where crossed by arteries they show distinct depressions. Arteries are also tortuous, but less so than the veins. No exudates or hæmorrhages noted." In the last six months cyanosis has perhaps been a little less, but the skin still has a leaden hue, especially that of the face. The hands and feet are decidedly blue and the nails have a purple tint. The mucous membranes of the mouth are deep purple, becoming black when he cries. Crying at times causes epistaxis. Superficial veins are only moderately distended, but are most distinct over the temples, bridge of nose, and upper part of chest. There is no œdema. The heart area, on heavy percussion, gives right border $\frac{1}{4}$ in. to right of sternum; upper border, second rib; extreme left border in mid-axillary line, $3\frac{1}{2}$ in. from mid-sternum; left border in second interspace $2\frac{3}{4}$ in. to left of mid-clavicular line. The impairment over first interspace extends one finger-breadth to left of sternum. Apex-beat rather diffuse, but strongest impulse felt over body of heart. At present no murmurs can be detected. When examined last August a very loud blowing murmur could be heard all over cardiac region, with maximum

intensity in region of pulmonary artery. The right border of the heart was then thought to be at least $\frac{3}{4}$ in. to right of sternum. Skiagraph shows very decided enlargement of left ventricle and auricle, and a decided bulging above the auricle in region of ductus Botalli and pulmonary artery; no enlargement of right side of heart. The diagnosis is not positively made, but with history of previous murmur at base and with accentuated pulmonic second sound it is suggested that there is a wide defect in the inter-auricular septum, with stenosis of pulmonic artery and unduly patulous ductus arteriosus. It is believed that the right heart might not enlarge, and might even atrophy, if the opening in inter-auricular septum be large and if the intra-ventricular septum be practically complete. Transposition of vessels with other combinations of anomalies is, however, not excluded.

Dr. GRIFFITH said that the diagnosis in this case was certainly obscure, as was so likely to be in instances of congenital heart disease. Taking the symptoms as they exist at present, without reference to the previous history, the possibility of some anomalous origin of the large blood-vessels was certainly to be entertained. It seemed hard to reconcile the absence of every trace of murmur with the combination of very decided pulmonary stenosis, and of perforate septum ventriculorum and patulous ductus arteriosus, which must almost necessarily be present to enable the blood to escape from the right ventricle into the general and pulmonary circulation. The pulmonary stenosis by this age would very probably have developed some enlargement of the right side of the heart. The reason for the hypertrophy of the left side of the heart in this case is by no means clear.

Dr. GRITINGS said that the blood-count of 9,000,000 red cells was unusual. In a recent article on congenital heart disease ('British Medical Journal,' October the 16th, 1909), the highest erythrocyte count observed by George Carpenter was under 8,000,000.

Infectious Purpura.—Dr. C. J. HUNT read this paper by Dr. SIDNEY J. REPPLIER. He reported a fatal case of purpura hæmorrhagica closely following erysipelas. There were complete ecchymoses of both legs and the lower part of the abdomen, together with symptoms of cerebral hæmorrhage. Autopsy was refused. He mentioned the recognition of the infectious character of purpura, but superficial search of the literature failed to disclose an instance following erysipelas.

Pyelitis Simulating Appendicitis.—Drs. J. F. SINCLAIR and J. H. JORSON reported a case of acute pyelitis in a female child, aged 8 years, with symptoms suggestive of appendicitis. Examination of the urine and a diagnosis by exclusion led them to a definite and final diagnosis of pyelitis. The leucocyte count varied from 12,000 to 18,600. The urine varied from 1010 to 1027 in specific gravity; was usually acid, showing traces of albumin, with pus, bacteria, and white blood-corpuscles. The symptoms elicited were fever, anorexia, headache, vomiting, pain in the right side of the abdomen, coated tongue, some rigidity of the right rectus muscle, and pain and tenderness most marked between McBurney's point and the costal margin.

Dr. JORSON added that the question of diagnosis was of interest, as it was usually made by exclusion. This case resembled appendicitis, but was not typical; in fact, he believed it might be typhoid fever. Only after several days, after urine examinations, was the diagnosis made. The child made a perfect recovery.

Dr. D. J. M. MILLER ventured to say that, had this case occurred ten or more years ago, the diagnosis would not have been made, as the urine of infants was not often examined then. Urinary examinations are more frequent now, and as a result we hear more of urinary infections in infancy. Dr. Miller makes a routine practice of examining the urine of every infant with unexplained fever. He also called attention to the remarkable way in which pyelitis, as in Dr. Jopson's case, will simulate other disease. He recalled a case of pyelitis, with great anæmia, reported to this Society some years ago by Dr. H. C. Carpenter, in which the correct diagnosis was only made by examination of the urine. He also referred to a similar case of his own, in which the anæmia was so extreme as to suggest this as the essential lesion, in which, through careless examination by a hospital interne, the urine was pronounced to be normal; at autopsy, however, multiple renal abscesses, with pyelitis, were found. Specimens from this case were also exhibited before this Society.

Dr. GITTINGS said that although examinations of the urine are undoubtedly neglected in private practice, yet he believes that the many negative results of urine examinations in hospitals show the comparative rarity of pyelitis.

Dr. H. C. CARPENTER said he had seen two fatal cases of chronic pyelitis in infants—one male, the other female. In both cases only a faint trace of albumin was present with some pus-cells and the characteristic kidney pelvic cells. Both infants had intense secondary anæmia; in each case the blood-count showed less than 2,000,000 red cells.

Société de Pédiatrie, Paris.

October the 19th, 1909. Bulletin No. 7.

Staphylococcic Scarlatinal Meningitis.—MM. WEILL and MOURIQUAND reported this case, which is very unusual, streptococci being the usual micro-organism associated with such cases. The child, a male, was aged $3\frac{1}{2}$ years, and was admitted for scarlatina with an abundant eruption. Instead of normal convalescence, an obstinate coryza appeared with purulent nasal secretion showing abundant staphylococci and absence of streptococci. Symptoms of meningitis then supervened, which proved fatal. At the autopsy *Staphylococcus albus* was found in the cerebro-spinal fluid. Anti-streptococcic serum had been given without result.

Syringomyelia in a Child.—M. MÉRY showed a boy, aged 14 years, a report of which will be published later.

Torticollis as a Sign of the Onset of Typhoid Fever.—MM. NOBÉCOURT and PAISSEAU read the notes of two cases of torticollis in connection with typhoid fever in children. This condition is rare although it is noticed in Rilliet and Barthéz' work. The author considered that the explanation was to be found in a serous arthritis in the articulations of the first cervical vertebrae.

Tuberculosis of the Larynx in an Infant, aged 3 months.—MM. NOBÉCOURT and TIXIER related this case. The child was in a deplorable condition, atrophic, and seemed as if suffering from the effects of defective feeding. The cough and voice were toneless, respiration difficult, and there was a certain degree of glottic spasm. The condition was thought to be due to diphtheria and an injection of antitoxin given. The autopsy showed general tuberculous lesions, especially in the larynx, where there was ulceration of the vocal cords and typical tuberculous granulations.

M. VARIOT said he had observed an analogous case of a child a little older, from eighteen months to two years. He had been admitted into the diphtheria ward at the Trousseau Hospital, aphonic and with laryngeal spasm and tugging. He was given an injection of serum, and tubage was thought of. Tuberculous ulcerations were found in the larynx. These cases were always very difficult to distinguish from diphtheria and should be recognised.

Facial and Ocular Paralysis.—M. GUINON showed a child aged 18 months, who, in a good state of health, was attacked with right facial paralysis with paralysis of the motor oculi of the same side. Lumbar puncture showed a marked lymphocytosis. He thought the diagnosis very obscure; tuberculosis was doubtful on account of the excellence of the child's general condition, and he suggested a simple poly-encephalitis.

M. NOBÉCOURT said that he had under his care at the present time a child who had facial paralysis and lymphocytosis, and though there had been some apparent improvement he concluded that there was cerebral tuberculosis, and the patient had already had two convulsive seizures.

M. TERRIEN recalled an analogous case in which he found a very small circumscribed tubercle in the bulb, at the site of the nucleus of the facial and nucleus of the external motor oculi.

General Telangiectasis and Congenital Cataract.—MM. TERRIEN and PRÉLAT showed the case of a girl, aged 6 years, admitted for a double congenital cataract. There was nothing special in the history; the parents were healthy, the child born at term, but did not walk till nineteen months old. The telangiectasic plaques, which formed the chief peculiarity of the patient, commenced at the age of three months, first on the face, then on the buttocks and limbs. At the same time there appeared brown blotches limited to the skin of the trunk. The patches were unequally scattered over the body; they attained their greatest development on the face, and on the limbs were more marked on the extensor surface; the trunk was entirely free. There was a small pigmentary nævus on the internal surface of the right knee and a much larger one between the shoulders. There was a subcutaneous infiltration of the whole skin, but especially of the face; the eyebrows were atrophic—a condition suggesting a certain degree of thyroid insufficiency.

VINCENT DICKINSON.

Abstracts from Current Literature.

Medicine.

Tics and their treatment (*Arch. of Pediat.*, 1909, p. 10).—**E. W. Scripture.**—A tic is a movement of a group of voluntary muscles which the patient does not intend to make and which he cannot help or can resist only with difficulty. The movement may be conscious or unconscious. In neurasthenia tics may be produced by imitation or by peripheral irritations, such as objects falling into the eyes, annoying collars and other articles of clothing, skin diseases, etc. In others the tics may arise from emotional disturbance. A tic is distinguished from normal movements by the lack of an adequate cause, and from spasmodic acts by its mental character. A spasm is not modified by attention, distraction, or emotion, usually affects muscles supplied by a single nerve, is not preceded by a feeling of compulsion, nor followed by a feeling of relief. From chorea a tic is distinguished by its systematic character and relatively longer pauses. Scripture has found that the most satisfactory method of treatment is conscious repetition, whereby voluntary imitation transforms the tic from a subconscious into a conscious act.

J. D. ROLLESTON.

Leontiasis ossea in a child with diabetes insipidus (*Arch. of Pediat.*, 1909, p. 14).—**L. C. Ager.**—A boy, aged 5 years, with a history suggestive of some form of meningitis at two years, had been suffering from diabetes insipidus for over two years, and a localised hypertrophy of the right frontal malar and upper part of the superior maxillary bones for one year. The polyuria and the osseous hypertrophy were possibly both due to the abnormal activity of the pituitary gland. X-ray treatment produced a severe burn. The issue of the case is not recorded.

J. D. ROLLESTON.

Urinary infection in infants and children (*Arch. of Pediat.*, 1909, p. 50).—**M. T. Lippe.**—Primary urinary infection is commoner in infants than in children and in females than in males. Most of Lippe's cases occurred in infants from 9 to 18 months old. In most cases infection takes place through the nurse or mother rubbing the soiled diaper against the urethra while cleaning the child after a stool. The constant symptoms are fever, pallor, anorexia, and disturbance of micturition, which is usually frequent and often painful. Restlessness, especially at night, is the rule. The diagnosis is made by examination of the urine. In bladder infection it is usually turbid. In infection of the renal pelvis it may be clear, if the bladder trouble has subsided. *B. coli* is the most frequent causative organism; less frequently strepto- and staphylococci are found. Microscopical examination shows pus cells, red cells (in early cases), epithelial cells from the bladder and kidney, bacteria, and casts. The disease tends to get well spontaneously, but can be shortened by proper treatment. In most cases hexamethylenamin is curative, in doses of 5 to 15 grains daily. Potassium acetate and infusion of digitalis is of benefit in some cases. Six illustrative cases are recorded.

J. D. ROLLESTON.

Ulcerative endocarditis (*Arch. of Pediat.*, 1909, p. 54).—**K. Schlevik** records a case illustrating the pyæmic form of ulcerative endocarditis in a girl, aged 3 years. *Staphylococcus pyogenes aureus* was cultivated from

the blood during life. At the autopsy a warty pedunculated vegetation with two small ulcers was found on the anterior flap of the mitral valve. On each side of the large vegetation was a small flat one. Numerous small infarcts were found in the spleen, from which the *Staphylococcus pyogenes aureus* was cultivated.

J. D. ROLLESTON.

The future of mentally deficient children (*Journ. Roy. Inst. Public Health*, 1909, p. 342).—**Caroline E. O'Connor** severely criticises the present system by which these children are given an expensive education till the age of sixteen years, and then turned loose upon the world. Being neither self-supporting nor morally responsible they inevitably end in the workhouse or prison. She thinks that a great saving might be effected by keeping them compulsorily throughout life in a residential home, where they would be able to contribute towards their own support. Such a home has been in existence for over fifty years in Massachusetts, and another has recently been opened at Sandwell Hall, near Birmingham, where the authorities endeavour to keep the inmates permanently, but possess no legal power of detention after sixteen.

J. D. ROLLESTON.

Diphtheria in Cologne (*Münch. med. Wochens.*, 1908, p. 1974).—**Berlin**.—3256 patients were admitted to the diphtheria block at the Augusta Hospital in Cologne between January 1, 1900, and July 1, 1908. 569 died—a mortality of 17·5 per cent. This relatively high figure was due to the large number of toxic cases. Patients were rarely admitted before the third day of disease, and had received little or no treatment at home. More than half of the deaths occurred within the first two days after admission. 662 had laryngeal symptoms which required operation. Of these 308 died—a mortality of 46·5 per cent. On 322 tracheotomy, on 215 intubation, and on 125 both operations were performed. Of these, 162, 69, and 77 respectively died. Local treatment consisted in syringing or gargling the throat with a 3 per cent. solution of hydrogen peroxide. Pyocyanase, recommended by Emmerich, had no effect in severe cases.

J. D. ROLLESTON.

Acute poliomyelitis (*Arch. of Pediat.*, xxvi, 1909, p. 321).—**H. Koplik**.—The epidemic which occurred in the summer of 1907 was the most extensive known in New York and possibly in the United States. Over 1200 cases were reported in the New York City and State. Children of all classes and of all ages were attacked. A few cases occurred in adults. Clinically there were three sets of cases: (1) Cerebral. In these somnolence was an early symptom, which was succeeded in extreme cases by signs of bulbar palsy, or was replaced by a clear sensorium, but complete paralysis of all four extremities. In some cases paralysis of the abdominal and other trunk muscles also developed. (2) Neuritic cases. Acute pains in the extremities, often referred to the joints, were the first symptoms, so that these cases were often mistaken for rheumatism. Gradually paralysis of some or all of the extremities developed with a clear sensorium. In the vast majority the knee-jerks were increased. (3) Ordinary cases of acute anterior poliomyelitis. Koplik believes that the infectious agent reaches the nervous system through the tonsils or intestines, as in many of the cases there was a history of tonsillitis, diarrhoea, or constipation.

J. D. ROLLESTON.

The health of children of mothers employed in tobacco factories (*'La Pédiat.,'* March, 1909 No. 3, p. 161).—**R. Simonini** finds that the health of such children was below the average, the mortality greater. There seemed to be a direct relation between the tobacco and abortion or premature birth. Irregularity in suckling and too early recourse to milk substitutes appear to be the principal causes of the disorders of the infants. The quantity of milk in the mothers appeared below the average. The passage of nicotine into the lacteal secretion was not proven. The reaction, chemical composition and ferments of the milk in such mothers did not undergo any important modification. The hæmolytic power of the whey was maintained at a good level.

VINCENT DICKINSON.

Case of juvenile general paralysis (*'La Progrès Méd.,'* May, 1909, No. 19, p. 242).—**Remond** and **Chevalier-Lavaure** report the case of a girl, aged $14\frac{1}{2}$ years, the subject of general paralysis of less than two years' duration. Examination of stained preparations showed the ordinary lesions of general paralysis but of remarkable intensity; deformity, cellular chromatolysis, displacement and disappearance of nucleus, atrophy of many cells, infiltration of leucocytes around blood-vessels and in the pia mater, diffuse proliferation of neuroglia in the cortex and superficial sub-ependymal layers, destruction of many myelinic fibres. The spinal cord was affected in the same way, but the lesions were most marked in the posterior columns. The disease commenced as a pure demential type on a basis of mental debility without any deliriant reaction. The euphoria, shown by the fatuous smile displayed by the patient, could not have proceeded from any intellectual trouble, ideas of grandeur or of satisfaction, the intellectual abeyance being too profound to allow of even the most rudimentary delirium. Abolition of reflexes and motor inco-ordination were explained by the medullary lesions. As to the cause of the affection, Hutchinsonian teeth, old ocular troubles, enlarged glands and pulmonary lesions all pointed to the conclusion that congenital syphilis and tuberculosis were the determining causes acting on a favourable soil.

VINCENT DICKINSON.

Disorders of inanition: vomiting caused by insufficient food (*'La Clin. Infant.,'* May, 1909, No. 10, p. 289).—**G. Variot** draws attention to the fact that insufficient food is as dangerous as overloading the alimentary canal, and that fear of the latter may lead to worse evils. He was called to see a boy, aged 6 weeks, suckled by a healthy Italian wet-nurse, but who nevertheless did not gain weight. He weighed 3.6 kilog. as at birth. He had been put on a ration of 100 gr. per kilo, taking 360 gr. of milk in twenty-four hours. Dr. Variot ordered a more liberal ration; the mother objected that the stools were unhealthy and dark and that more food would increase the enteritis, but a good result followed his advice and opinion that stagnation of weight and abnormal stools were due to and kept up by hypo-alimentation. Although it seems paradoxical, the under-fed infant vomits as well as the over-fed, and vomiting from hypo-alimentation is as frequent in breast-fed infants when the lacteal secretion is deficient as in those on the bottle and who do not get the quantity of milk which they ought. This kind of vomiting quickly yields—sometimes the next day—as soon as larger feeds are given, especially if citrate of soda be added. If, however, we insist on reducing the alimentary ration until the stools become normal in appearance, or persist in giving vegetable broths, which have a very low nutritive value, under pretext of combating a gastro-enteritis, the child's condition becomes worse. It

should be realised that the gastro-intestinal reactions in hypo-alimentation are very much like those of over-feeding, that is to say, gastric spasm may supervene, and this cause of vomiting deserves to be recognised. Before reducing the ration of a nursling that vomits, a precise inquiry should always be made concerning the amount of food he absorbs, and the conclusion that he has been over-fed should not be made without definite information and due reflection.

VINCENT DICKINSON.

The influence of morbid heredity on the development of infants (*La Clin. Infant.*, 1909, Nos. 11 and 12, pp. 325 and 364).—This subject is treated of in an interesting article which discusses it from the points of view of syphilis, tubercle, alcoholism, lead and tobacco poisoning. The author quotes cases of congenital syphilis which show that, contrary to the too dogmatic assertions of certain syphilographers, artificial rearing is under some circumstances possible. It is no doubt impossible to bring up on the bottle weak and cachectic syphilitics, with gross osseous lesions or latent or apparent visceral lesions, but even breast feeding does not give satisfactory results under these conditions, and the majority of these infants die during the first months. Parrot got good results by making the children take the breast of she-goats and asses. A tribute is also paid to the efficacy and superiority of grey powder B.P. over all other mercurial preparations in the treatment of congenital syphilis.

With regard to tubercle.—If the children were not weakly it was generally possible to rear them on the bottle. Observations showed that maternal heredity had a more marked influence than paternal. Infants were often met with whose conception occurred at a time when the tuberculosis was in full evolution in the father but whose mother was in good health, born with normal weight and reared naturally. On the other hand, women in an advanced state of phthisis either abort or bring into the world weakly children whose future is very doubtful. When the heredity is double and both parents are diseased it would be expected that these effects would be more marked. But it is necessary to guard against believing in the absolute fatality of the manifestations of heredity and of their intensity under these circumstances. The variations and apparent irregularities in hereditary manifestations that Fournier has called attention to in syphilis from one pregnancy to another may, *à fortiori*, be met with in tuberculosis, without one being able at present to find plausible explanations of these facts, which apparently do not follow any scientific rule. Infants born of tubercular parents are more vulnerable than others, particularly those who are weakly and under weight. Their upbringing, especially by the bottle, presents sometimes the greatest difficulty, their growth is very slow, their muscles and bones are fragile, they do not walk until two years or later, and their bad nutrition persists sometimes for several years.

Alcoholic heredity.—In the *Goutte de lait* at Belleville puny and feeble infants were met with whose development was unsatisfactory, although they were well cared for, and in these cases it transpired that the father was an inveterate drinker and that the mother had already had miscarriages. Recent experiments have proved the passage of alcohol from the mother to the fetus, and Palazzi was able by hypodermic injections of alcohol in rabbits to produce sterility in 50 per cent. Féré, by inserting a small quantity of alcohol into hens' eggs, produced teratological deformities in the embryos. It is probable that alcohol does not act instantaneously, but rather by the repetition of the dose. Also the influence of the father on the

product of conception seems less marked than that of the mother, excepting in cases where procreation has taken place during a state of intoxication, or where the father has chronic alcoholism with organic lesions. Ballantyne asserts that alcoholism, especially of the mother, increases infantile mortality (1) by causing a large number of abortions; (2) by producing premature births; (3) by predisposing the child to serious illness in consequence of his congenital debility. After birth the milk of women who drink is often toxic, the children develop badly and are subject to convulsions, gastric irritability and wasting.

Lead poisoning.—The statistics of Roque and Gauyairé show a large mortality in the infants, especially during the first year, and that the maternal influence is much more marked than that of paternal, that the influence of the lead poisoning of one of the parents is in proportion to the intensity of that poisoning, that the influence is, moreover, more marked if both parents are attacked. The mother may continue to furnish the poison by her milk. Balland found in 115 grm. of milk an amount of lead of nearly half a milligramme. Legrand and Winter had the opportunity of making an autopsy on an infant born at seven and a half months and surviving only fourteen days. There was diminution of size in all organs, and lead was found in the liver and kidneys and all the viscera were more or less cirrhotic.

Tobacco poisoning.—The poison passes into the milk in the women employed in Government factories. One woman had fourteen pregnancies; the first seven before she entered the factory were normal, none of the others went on to term. Another had eight pregnancies, of which the two last alone went on to term, the woman having left the factory. The infants of tobacco-workers are difficult to rear, die in large numbers, and are small and prone to illnesses. At Havre, under these conditions, Piasecki found 223 deaths in 376 births. Kostial observed only 11 still-births out of 453 births, but 206 of the children died, 101 with disease of the brain and cord and convulsions, 9 meningitides, and 3 chronic hydrocephalics. Most deaths occur from the second to fourth month, *i. e.* at the time when the mother is giving a nicotineised milk. The results are markedly different between those infants suckled by the mother and those placed out to nurse.

VINCENT DICKINSON.

Infantile spinal paralysis (*Canadian Journ. of Med. and Surg.*, June, 1909).—McKenzie alludes to the occasional epidemics of this disease in Europe 1906, New York 1907, and Ottawa 1906. The writer mentions two cases at the age of 18 years. It is probably infective on the following grounds: Its seasonal occurrence, by far the greater number of cases occurring in July, August and September; occasional epidemics; the occurrence of several cases in the same household. Wickham in Sweden traced the disease from one hamlet to another, and showed that persons who themselves escaped were the intermediaries through whom the infection was conveyed. These symptoms are ushered in with malaise, fever, convulsions and headache, like those of any other acute infectious disease, and there are probably some abortive cases where no paralysis of a permanent character follows. On the other hand in some cases fulminating symptoms appear with bulbar symptoms and death in two or three days. In these at the necropsy meningeal involvement is found, and some of these cases have been called cerebro-spinal meningitis. Sachs sums up the treatment as follows: Drugs have no effect. Except as a matter of exercise electricity is practically

useless. Massage improves the circulation and should be employed. Methodical exercises are of the utmost importance, and should be persisted in. Tenotomies and tendon transplantations are of the greatest value. The disabled muscles should be kept relaxed by a suitable position of the limb, especially during sleep.

J. PORTER PARKINSON.

Tuberculous meningitis of cerebro-spinal type and prolonged onset (*L'Echo Med. du Nord*, May, 1909).—Gugelot on February 1 was called to a little girl, aged 5½ years, who had been attacked with fever, headache, and lumbar pains. She vomited twice. Temperature 39° C. The fever and headache persisted, and two days later some retraction of the head appeared. The knee-jerks were then exaggerated and Koenig's sign positive. These symptoms continued till February 21, when the temperature fell to 37·4° C., and the next day the pulse became irregular and there was much irritability. The pupils were irregular on February 24. There was some general hyperæsthesia. Coma appeared on March 10 and death occurred March 19.

J. PORTER PARKINSON.

Stenosis of pylorus in an infant; recovery (*Canadian Journ. of Med. and Surg.*, March, 1909).—Machell reports a case fed on milk and barley-water from birth. From the first the infant vomited curds, mucus, gas and watery material. The vomit was at times large in amount. The bowels were never moved without assistance and the stools were dry, greenish, odourless, and sour. Loss of weight was persistent, and he was pale and apathetic. The epigastrium was rounded, bulging and tympanitic; occasionally waves traversed it from left to right. On deep palpation an indefinite nodule was felt in the right nipple line, half an inch above the umbilicus. At this time the infant was three months old. The stomach tube was passed and large quantities of mucus and curds were washed out; this was repeated daily, and after the first week vomiting ceased and the weight steadily increased. The author discusses the cause of the obstruction; it had existed from birth and at first he thought there was hypertrophic stenosis of the pylorus; later, as treatment was so successful, he thought it was probably spasm of the pyloric sphincter.

J. PORTER PARKINSON.

Syphilis hereditaria tarda (*The Post-graduate*, April, 1909).—Dittrich reports two cases.—A boy, aged 12 years, the third of six living and three dead children, none of whom showed any syphilitic taint. At the age of six months he had snuffles, and sores at the corners of the mouth, leaving characteristic scars. Recently he has had interstitial keratitis and aural discharge. He has a large head, thick, protruding lips, saddle nose. Middle upper incisors notched, convergent and peg-top shaped. Recently he had a subcutaneous gumma about the size of a hen's egg on the right arm, and on both legs there are small superficial scars. His sister, aged 12 years, had been perfectly healthy till August last, when she fell and was supposed to have sprained her leg. Shortly after, a slight periosteal node developed on the front of the tibia of the left leg. This healed under treatment. The teeth show but slightly the Hutchinsonian type. She is the only one in a family of seven besides her brother who shows this hereditary taint.

J. PORTER PARKINSON.

Amaurotic family idiocy (*The Post-graduate*, March, 1909).—Davis, of New York, describes the case of a male child of Russian-Jews. There

were five children, the first of whom had previously died of this disease. This child was well till the eighth month; it was then noticed the child could not sit alone or hold objects in the hands, and was apparently losing its eyesight. It also had diarrhoea. It refused to take the breast. There were no convulsions. The limbs were perfectly flaccid except the fingers and toes, which were slightly spastic. The bowels were constipated in the hospital, and the temperature ranged from 98° to 106.3° F., the pulse 100 to 144. The chest and abdomen were normal, and nothing was found to account for the fever. Difficulty of swallowing was marked before death. In the fundus of both eyes was the usual cherry-red spot, surrounded by a large greyish-white patch in the position of each macula. The blood-vessels were normal in size and the optic nerve was intensely white. The child was absolutely blind, became very emaciated, and died six weeks after it was first seen. The writer discusses in detail the morbid anatomy and the pathogenesis of the disease, for which we must refer those interested to the original paper. **Oatman** gives a full report of the histological appearance of the eyes, which may be summed up as follows: (1) Total absence of all inflammatory processes or other lesions which explain the ophthalmoscopic picture or blindness. (2) Presence of peculiar granules in the ganglion cells. (3) Commencing optic atrophy.

J. PORTER PARKINSON.

Diphtheria carriers (*'Canadian Lancet,' August, 1909*).—**Clutterbuck**, in discussing the question of the quarantine of infected persons, quotes Hill, of Boston, who showed that a single negative examination is insufficient to prove a case non-infectious; a second one, however, reduces the error to 3 per cent. He shows 40 per cent. negative in 20 days, 60 per cent. before 25 days, 74 per cent. within 30 days, 86 per cent. within 35 days, and only 13 per cent. lasted from 33 to 65 days. With regard to persons who are in good health, but exposed to diphtheria, the organism may be found in a certain percentage, *i. e.* out of 768 contacts 147 showed the presence of the organism, 98 of which had the nose infected without the throat.

J. PORTER PARKINSON.

Cerebro-spinal meningitis in the Pas de Calais (*'L'Echo Med. du Nord,' July, 1909*).—**Petit** relates instances showing evidence of contagion, one in two sisters, others showing that the organism had been carried by a healthy person. Out of 99 suspected persons the organism was found in the healthy throats of 11. He reports 26 cases; 5 were not treated with anti-meningococcic serum, 4 of these died. Of 21 who were so treated 17 recovered. These statistics, though of small numbers, are sufficiently remarkable. The injections should be made as early as possible, even without waiting for the bacteriological diagnosis, if the cerebro-spinal fluid be turbid; but if this fluid be clear it does not negative cerebro-spinal meningitis without bacteriological evidence. In the great majority of cases two injections were sufficient, but in some daily injections for three, four or five days were necessary. The quantity injected was usually 10 to 15 c.c., and these injections repeated seemed more efficacious than single larger doses.

J. PORTER PARKINSON.

Two cases of microsphymia (*'El Brazil-Medico,' February 8, 1909*).—**Variot** says that this morbid condition is characterised by a permanently small pulse, cold extremities, mental deficiency, and ichthyosis. According to Vincent it is due to thyroid insufficiency. The first child measured

0.97 m. instead of 1.18 m., which would have been the normal height for corresponding to his weight and age. The pulse was very small, the ichthyosis moderate. After treatment with thyroid gland tablets the height increased to 1.15 m. and the child was much livelier. After suspending the thyroid treatment at the end of three weeks the microsphygmia reappeared. The second infant measured 1.02 m.; the pulse was filiform, the mental deficiency extreme, and there was marked ichthyosis of the legs. A skiagram showed that there was a general retardation in ossification. The first, a child aged 8 years, had the ossification of an infant of eighteen months, and that of the second bore the same ratio. M. D. EDER.

Note on the treatment of infantile diarrhœa (*The Transvaal Med. Journ.*, January, 1909).—**Caiger** concludes that (1) the essential factors in the treatment of infantile diarrhœa are the entire withholding of all food and the abundant ingestion of boiled water. (2) This treatment is supported strongly, not only by its improved clinical results, as shown by a greatly diminished mortality, but also by modern experimental science. (3) Bacteriology teaches that a complete fast is one of the most effective measures in diminishing sepsis in the intestines. (4) Practical experience has now abundantly proved that young children can be kept entirely without food for from one to three days with perfect safety, provided water is freely given. (5) It therefore appears that the loss of appetite and thirst, so often met with in these cases, are factors of pre-eminent importance in the natural defensive processes of the organism. M. D. EDER.

Morpinami's scarlatina toxin (scarlatin) and its use in practice (*Allg. Wien. med. Zeit.*, March 16 and 23, 1909).—**Monti** remarks that this differs from other serums since it is obtained by extraction from the blood of immunised animals by a method in which the albumins of the blood are changed. This is the reason why scarlatin is quite harmless, never giving rise to serum rashes, etc. No bad after-effects have been found even after continuous use in little children during six weeks. Morpinami's method rests on the clinically ascertained fact that anti-bodies are formed in the blood of scarlatina convalescents that have nothing in common with streptococci. Scarlatin is an antitoxin preparation to be given internally. It serves as a protection against infection; if the disease has occurred it is of value only so long as the scarlatina is uncomplicated by streptococcic complications; it is useless in septic cases. The earlier the remedy is used the more certain is one to prevent such complications. Scarlatin is put up in two strengths. Scarlatin I serves as a prophylactic; children over five and adults are given five drops night and morning in milk or water; under five the dose is one drop for each year twice daily. Scarlatin II is a therapeutic remedy in cases of declared scarlatina. Children over five are given five drops in milk or water every two hours, under five one drop per year every two hours. Monti from his own experience recommends for children over five, ten drops three times a day. The dose is diminished after the third or fourth day, and if the temperature is normal after the eighth day the serum is left off. In 211 observations by various writers there were seen 211 cases of scarlatina, amongst them 32 severe cases; 197 recovered and 14 died—a mortality of 6.5 per cent. Monti regards this as very good seeing the large number of severe cases. In his own 30 cases where it was used there were no deaths. Most favourable results have been obtained by its use as a

prophylactic, and the results of several writers—Campe, Mergel, and others—are given. Monti has only used it a few times himself for this purpose.

M. D. EDER.

An unusual case of trophoneuritis (*'St. Petersburg Med. Woch.,' June 6, 1909*).—Giese showed a girl, aged $7\frac{1}{2}$ years, who had measles three and a half years ago. Immediately afterwards the left hand became markedly smaller and the left half of the abdomen fell in. There is now entire absence of subcutaneous fat on the dorsal side of the left arm and on the left mesogastrium. The skin is everywhere marbled, more especially in these two places, whilst the temperature is higher than elsewhere. No atrophy of muscles, and the bones are normal. The circumference of the left upper extremity is notably less than that of the corresponding side. The muscle and tendon reflexes are more active on the left side. Electrically, the left rectus muscle is more easily stimulated than the right. Everything else quite normal. The condition of all the organs and the blood is normal. No cause could be found for the disease.

M. D. EDER.

A case of Barlow's disease in a breast-fed child (*'Wien. klin. Rundschau,' August 1, 1909*).—Hochsinger referred to a child which had been exclusively fed at the breast. It became pale and had pains in the lower limbs; there were swellings on the thighs and arms. Röntgen rays showed subperiosteal exudations of blood in the painful bones. The symptoms disappeared when Nestlé-meal was given. This case is against the view that this illness is caused by giving sterilised milk.

M. D. EDER.

Acute lupus (*'Wien. klin. Rundschau,' July 11, 1909*).—Pollak showed a girl, aged 5 years, with this disease as a sequel to measles. Solid livid tubercles with a centre of horny consistency were present on the hands and heels, the palms, and the tips of the fingers; miliary patches were present on the trunk and on the extremities. On the wrist and the central phalanges there were scrofulous gummata with central necrosis. The father was tuberculous, and a sister, aged 12 years, had an apical affection.

M. D. EDER.

Congenital myxœdema (*'La Semana Med.,' June 24, 1909*).—Hopff has treated three cases in children aged 2 months, 18 months, and 3 years respectively with thyroid extract, and noted a great and continuous improvement in all.

M. D. EDER.

Acute cerebral tremor of children (**Akuter cerebraler Tremor des Kindersalters**) (*'Monatschr. f. Kinderheilk.,' May, 1909, S. 84*).—Forest refers to a case published by Zappert under this title and then shortly narrates a similar one. A male child, aged 10 months, suffered from a febrile attack of varicella. A fortnight later a tremor of the whole body set in. Vomiting occurred, but no other symptom. The tremor continued during sleep; it was quite general, except for the face and eye muscles, and in character resembled that of paralysis agitans. The reflexes were active. The tremor gradually became less pronounced, first during sleep, and in three weeks had quite disappeared.

ERNEST JONES (Toronto).

The variation of the articulatory capacity for different consonantal sounds in school children (*'Internat. Arch. f. Schulhygiene,' Bd. v, S. 137*).—Ernest Jones sets out in this article a continuation of

the investigations previously recorded (see *BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1908, p. 265). Eight tables are appended. The author's conclusions may be quoted: "The main point illustrated by this investigation is the extraordinary complexity of the factors influencing the enunciation capacity for difficult consonantal sounds, and the urgent necessity of exactly defining the circumstances of testing before generalising any results obtained in such an investigation. To mention only a few of the factors that influence the ease with which a given consonantal sound can be enunciated: Nature of contiguous vowel, nature of distant consonant, nature of contiguous consonant, order of contiguous consonants, position of sound in the word, familiarity of word tested, nature of immediately preceding words. The most prominent facts that emerge from the present investigation are the following: *Th* (especially in initial and final positions), *ng* (especially in final position), *the* (especially in final position), and *v* (especially in intermediate position), were the sounds showing the greatest difficulty of enunciation. The voiced *the* was enunciated much better than the voiceless *th*, the difference being greater in the case of the girls, and the voiceless *f* than the voiced *v*. The chief differences between the two sexes were as follows: In general, as stated in the former article, the girls obtained decidedly higher marks. Sixty-three 'units' get higher marks with the boys, 132 with the girls. The boys excelled in the enunciation of *ng* (strikingly so with final *ng*), *zm*, and, to a less extent, of *dn*, *kn* and *gl*—all in the intermediate position. The girls excelled in the enunciation of (1) *the* (most with final *them* and *thed*), *th* (most with intermediate *thr* and *thrn*) and in all the compounds of these two sounds, (2) in all sibilant sounds and in nearly all their compounds—*zm* being a notable exception (most with the final *sk* and *zu*, and *s* compounds in the initial position). The influence of the position of the sound in the test word was shown most in the following instances in order of their importance: final *ng*, final *the*, intermediate *v*, initial *shr*, final *them* (especially with boys), final *gl*, final *kl* were all notably harder to enunciate than the corresponding sounds in other positions. Further, with the boys' initial *th* and initial sibilant combinations, especially *sku* and *shr*, and with the girls' initials *thr*, *gl*, *kn* and *dn* (the last three as intermediates), showed a similar difficulty."

AUTHOR'S ABSTRACT.

The proteid content of the cerebro-spinal fluid in general paralysis (*Rev. of Neurol. and Psych.*, June, 1909, p. 379).—**Ernest Jones** gives here a historical account of our knowledge of the subject, and then describes the various modes of testing for proteid in the cerebro-spinal fluid. In general paralysis a peculiar form of euglobulin is present in the cerebro-spinal fluid, and has been shown to be the carrier of the "anti-body" which is operative in the Wassermann sero-diagnostic reaction. This euglobulin is best tested for either by Noguchi's butyric acid test or by the ammonium sulphate ring test, which is here described, together with the results obtained.

AUTHOR'S ABSTRACT.

A review of our present knowledge concerning the sero-diagnosis of general paralysis (*Amer. Journ. of Insanity*, April, 1909, p. 653).—**Ernest Jones** here reviews this subject in detail, some 220 works being dealt with. Seven reactions are considered, and the theory of the Wassermann reaction fully gone into. The conclusions are too long to quote here, but those interested in the subject are referred to the original.

AUTHOR'S ABSTRACT.

Family nervous diseases (les maladies nerveuses familiales) (*Arch. Gen. de Med.*, March, 1909, p. 129).—**Massalongo** defines a family disease as one which (1) affects in the same form several members of the same generation; (2) has its onset at about the same age in the different members of the same generation; (3) arises independently of any acquired pathological antecedent. After giving an interesting general exposition of the subject he proposes the following classification: (1) Family ataxic syndrome (Friedreich's disease, hereditary cerebellar ataxy, etc.); (2) family spastic syndrome (paraplegia, amyotrophic lateral sclerosis, etc.); (3) family amyotrophic syndrome (Thomsen's disease, Eulenburg's paramyotonia, etc.); (4) family myoclonic syndrome (Huntingdon's chorea, tremor, etc.); (5) family paralytic syndrome (Tay-Sachs's disease, Oppenheim's disease, etc.); (6) family tropho-vaso-motor syndrome (acute periodic oedema, lipomatosis, etc.); (7) family sensory syndrome (colour-blindness, word-deafness, etc.); (8) family neurotic syndrome (epilepsy, merycism, etc.); (9) family psychical syndrome (idiocy, dementia præcox, etc.).

ERNEST JONES (Toronto).

Relation of syphilis to chronic congenital hydrocephalus (*Monatschr. f. Kinderheilk.*, March, 1909, S. 771).—**Knoepfelmacher** and **Lehndorf** report the results of investigation of three cases of this nature. Wassermann's reaction (complement deviation) was negative in all, a fact that speaks against the syphilitic origin of the affection.

ERNEST JONES (Toronto).

Sepsis due to a diphtheroid bacillus in an infant with the manifestations of Winckel's disease (Sepsis aus diphtherieähnlichem Bazillus bei einem Säuglinge mit klinischen Erscheinungen Winckelscher krankheit) (*Monatschr. f. Kinderheilk.*, March, 1909, S. 717).—**Francioni** gives a detailed description of a case of Winckel's disease (acute hæmoglobinuria with jaundice). The patient was a male child, aged 26 days. He died in three days. From the blood, taken during life, a pure culture was grown of a diphtheroid bacillus; this is described at length. The authors conclude that Winckel's disease is rather a syndrome than a disease, for it can be produced in various ways and by various bacteria.

ERNEST JONES (Toronto).

The frequency of tuberculosis in infants (*Münch. med. Wochens.*, No. 7, 1908).—**Sehlbach** has analysed the records of 1390 necropsies on infants and children up to nine years of age, and finds mention of tuberculous lesions in 180 of the cases. Among 1150 infants under one year of age the percentage was 7·8. During the first three months it was low, from the fourth to the ninth month it was high, and during the last quarter lower again. In the second year the curve rises suddenly and then subsides considerably, so that in the third and following years it remains somewhere about 50 per cent. The author concludes that tuberculosis during the first year is due to infection either from the mother or by the food, while after the first year the infection is from other external sources, such as the soil and objects with which the children come into contact. Although the tuberculosis of infants sometimes shows evidence of resistance to infection in the shape of localised or encapsulated lesions, the resistance is usually very low and an early death commonly results. Only a small percentage of infected children carry the disease without symptoms to a later age, when it becomes active. These facts controvert Behring's theory that tuberculosis in infancy and

childhood may heal, but that the infection leaves the system liable to a subsequent introduction of the tubercular virus. The theory that predisposition to tubercular infection is caused by either a juvenile healed or latent tuberculous process is based upon no facts.

T. R. WHIPHAM.

Infantile spinal progressive muscular atrophy (*Med. Press,* June 16, 1909).—At the Gesellschaft für innere Medizin at Vienna Popper showed two sisters, aged 4 and 2 years respectively, who seemed to be suffering from the Hoffmann-Werdnig disease (progressive muscular atrophy in the young). The children were healthy and active when born, and had no apparent weakness in the arms or legs until they were six months old, when a gradually increasing weakness of the limbs began, the lower extremities being first affected. The weakness in course of time extended over the entire body until the children were unable to sit up without support, while the limbs were quiet helpless, the legs soon becoming emaciated. The elder child was fairly well nourished, and the cranium, brain, and cerebral nerves were normal. The younger was soft and flabby with apparent fatty degeneration of the cellular tissue, so that the muscles of the extremities could be scarcely felt. In consequence of the weakness the child could scarcely raise its hand to its mouth. The left arm at the shoulder-joint was quite loose, and could be bent far beyond the normal range; there were no contractions or fibrillary tremors. When placed erect the child fell forward, and the head had to be held up. The muscles of the shoulders, back, and pelvis were distinctly atrophied, and the lower extremities were in the same condition. There was no hypertrophy present, and both feet were in the equinovarus position. There were no tendon reflexes, and the reaction of degeneration was present. The sphincters were normal, sensibility was undisturbed, and the intelligence was active. The elder girl was in a similar condition, but in her the disease appeared to be more protracted, as slight contractions could still be obtained in the lower limbs, which were held in the bent position. These symptoms seemed to agree with Hoffmann and Werdnig's cases recorded under the name "Chronic Spinal Muscular Atrophy having a Congenital Basis," or, as they preferred later to designate it, "Premature Infantile Progressive Spinal Muscular Atrophy."

T. R. WHIPHAM.

What is scrofula? (*Wien. klin. Woch.,* No. 9, 1909).—Escherich puts his conclusions in the following order: Before the first appearance of scrofula and later during the disease there exists a constitutional anomaly, known as the status lymphaticus. After infection with tubercle, there occurs an encapsuled tuberculous focus, followed by an "allergic" state, with a special susceptibility and over-sensitiveness to external injuries and especially to the smallest quantity of tuberculous toxin which is contained in the secretions. Then arises the pathognomonic superficial catarrh, and later by means of the lymph or blood-vessels there are deposited metastatic foci of a local or general tuberculosis. Thus scrofula is nothing else than tuberculosis in childhood, implanted on a lymphatic catarrhal constitutional state.

J. E. BULLOCK.

Idiosyncrasy to cow's milk in an infant (*Monatschr. f. Kinderheilk.,* Bd. 7, No. 10).—Freund, as the result of his experiences with an infant who in a marked degree showed an idiosyncrasy to cow's milk, with all the severe clinical symptoms after feeding with cow's milk but not with human milk, found that the characteristic idiosyncrasy could be produced by—(1)

milk mixed with a quarter of its bulk of water gruel; (2) buttermilk; (3) butter; (4) casein and sodium; (5) whey. The behaviour of the child towards these substances could not be explained by any theories hitherto propounded; besides, it could be clearly shown that not only the whey of cow's milk, but also other ingredients brought about the toxic symptoms. The case is also interesting from the fact that during the time of the idiosyncrasy, but not after, there was a marked positive reaction to Pirquet's tuberculin test and also a special susceptibility to mercury.

J. E. BULLOCK.

The percutaneous tuberculin reaction of Moro (*'Beit. zur Klin. der Tuberculose,' Bd. 11, Heft 3*).—**Wetzel** has tested Moro's tuberculin ointment reaction in 221 cases of certain tuberculosis in various stages and position and also in healthy subjects. The application appears to him to have certain advantages over Pirquet's and Wolff-Eisner's methods. He comes to the conclusion that the reaction is obtainable in adults, but is not of special service; it shows latent tuberculous foci, and in his clinic cases of unsuspected tuberculosis gave a positive reaction in 70 per cent. of the cases. In children under ten, the positive result clinched the diagnosis of suspected active tuberculosis. The amount of reaction is no indication of the severity of the disease.

J. E. BULLOCK.

The importance of the ophthalmic tuberculin reaction as affecting sanatorium treatment (*'Zeit. f. Tuberculose,' Bd. 13, Heft 6*).—**Wolff-Eisner** states that sanatoria labour under the great mistake that they receive active and quiescent cases indiscriminately, whereby statistics are vitiated. Only cases of active tuberculosis ought to be admitted; local reaction is of great help in determining the selection of such cases. He says: "The answer to the question, What is active tuberculosis? is the all-important and chief problem of the Tuberculosis Inquiry." Accordingly the conjunctival reaction, so readily applied in children, is capable of affording the greatest service, as it is the only early diagnostic sign which shows active tuberculosis.

J. E. BULLOCK.

Cyto-diagnosis as a means of detecting the early stage of tuberculosis of the lungs (*'Beit. zur Klin. der Tuberculose,' Bd. 11, Heft 3*).—**Eisen** and **Hatzfeld** have tested the assertion of Wolff-Eisner as to the early diagnostic significance of lymphocytosis in the sputum of phthisical patients, and come to the following conclusions: In the sputum of early stages of tuberculosis of the lungs the polymorphonuclear leucocytes are found in overwhelming numbers; the same picture—a pure leucocytosis and no lymphocytosis—was found nearly always in the sputa of the second and third stages of the disease. The cyto-diagnostic investigation of the sputum is thus not applicable as a means of early diagnosis. Moreover, the various forms of chronic bronchitis show a similar cytological result. Contrary to Arnheim they never found leucocytosis in the sputum of pertussis at any stage.

J. E. BULLOCK.

Tuberculous infection through the tonsil and adenoid (*'New York Med. Journ., August 7, 1909*).—**Pratt** believes that tonsils and adenoids are important ports of entry for tuberculosis of the cervical glands, the larynx and the lungs, and therefore that they should be removed in all tuberculous cases to eliminate present and future source of infection.

MACLEOD YEARSLEY.

Pathology.

Leucocytes in pulmonary diseases of children (*Arch. of Pediat.*, 1909, p. 195).—**J. S. Wile**.—Pulmonary tuberculosis causes no leucocytosis unless secondary infection occurs, in which case there is an increase of polymuclear neutrophilic leucocytes. As the infection increases the eosinophiles decrease. Improvement is accompanied by increase of the eosinophiles and by a decrease of the polymuclear neutrophiles. A decrease in the eosinophiles is therefore of bad omen, especially if accompanied by a decrease of basophiles. Eosinophilia is the most characteristic feature of emphysema. When bronchial asthma ensues the percentage of eosinophiles may rise as high as 54. Polymuclear neutrophile leucocytosis is found in bronchitis of the smaller tubes, pleurisy, pneumonia and empyema. Acute bronchitis of the larger tubes and chronic bronchitis cause no leucocytosis. In empyema the percentage of neutrophiles is high. In Wile's cases it averaged 73. In pneumonia the percentage may range between 75 and 95. Leucocytosis falls just before or during the crisis. Persistence of a high neutrophile percentage after the crisis indicates delayed resolution, empyema, gangrene, or other complications. During the attack the eosinophiles disappear, but reappear in convalescence. In broncho-pneumonia the leucocytes decrease unless a complication ensues. J. D. ROLLESTON.

On bacterial association in acute gastro-enteritis in infants (*La Pédiatrie*, August, 1909, No. 8, p. 561).—**S. Cannata** and **F. Luna** conducted a complicated research into this matter, experimenting with *B. coli*, *Proteus vulgaris*, diplococcus, streptococcus, and sarcina, and derive the following conclusions: (1) *Proteus vulgaris* and *B. coli*, normally present as innocuous hosts of the gastro-intestinal track of infants, may acquire a marked virulence. (2) This virulence may be increased by reciprocal action of the above-mentioned germs and also by the action of other intestinal micro-organisms upon them. (3) The increase in virulence of *proteus* and *coli* may be due to living bacteria, to proteins, and toxins. (4) It may, on the contrary, happen, as was observed in one case of acute gastro-enteritis, that a virulent *B. coli* may retain its virulence and not be influenced by the action of other germs which live together with it in the intestine. (5) Non-virulent *B. coli* isolated from the fæces of a normal infant may become so owing to the influence of certain intestinal germs.

VINCENT DICKINSON.

Therapeutics.

Fresh air in the treatment of disease (*Arch. of Pediat.*, 1909, p. 88).—**W. P. Northrup** recommends that all febrile cases, measles possibly excepted, should be treated in the open air. Patients so treated, especially pneumonia cases, sleep and eat better and recover more quickly and completely. For the success of the treatment it is essential that both patients and nurses should be comfortable all the time. J. D. ROLLESTON.

Morphia in laryngeal diphtheria (*Gaz. hebdomadaire des Sci. Méd. de Bordeaux*, 1909, p. 134).—**F. Carles** and **R. Dupérié** record twelve cases in which this treatment, advocated by Lesage, Ausset, and others, was adopted (*v. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1909, p. 132). The results were most disappointing. The relief produced was only transitory, and the

natural powers of resistance were so much depressed that surgical interference was required sooner than in cases not so treated. Though morphia may be useful in cases where spasm is predominant, such as laryngismus stridulus or acute laryngitis, it has no effect upon the mechanical obstruction produced by the diphtheritic membrane and inflammatory oedema of the laryngeal mucosa. Since in laryngeal diphtheria the laryngeal obstruction is due more to mechanical stenosis than to spasm, the writers consider that the use of morphia in this disease is both useless and harmful.

J. D. ROLLESTON.

The treatment of cerebro-spinal meningitis by the serum of Flexner and Jobling, with a report of 523 cases (*New York State Journ. of Med.*, vol. ix, 1909, p. 239).—**L. Emmett Holt**.—The 523 cases consist of patients treated with this serum in New York, Boston, Baltimore, Washington, Philadelphia, Cleveland, Chicago, Edinburgh and Belfast. No case was included in which the clinical diagnosis was not confirmed by examination of the cerebro-spinal fluid. To determine the value of the serum Holt considers the mortality, the duration of the disease, and frequency of complications among cases so treated: 368 cases recovered and 155 died—a mortality of 29·6 per cent. In cases not treated with serum the mortality ranged from 50 to 80 per cent. The reduction of mortality in young children is most striking. Whereas among 61 children under two years not treated by serum the mortality was 90 per cent., of 59 serum-treated cases 25 died—a mortality of 42·4 per cent. The average duration of the disease in 220 serum-treated cases in which a reliable history could be obtained was eleven days, whereas in 350 recovered cases treated in 1905, the duration was five weeks or more in 50 per cent. Of 270 serum-treated cases the disease ended by crisis in 69, or 25 per cent., by lysis in 201, or 75 per cent. Relapses occurred in about 5 per cent., but were very seldom fatal. Complications and sequelæ were rare and usually confined to the late cases. In almost all the others the recovery was complete. The use of large doses is recommended. Thus the initial injection should be 30 c.c. and in very severe cases 45–50 c.c. The very small doses used at first were probably responsible for many of the failures, exactly as occurred with diphtheria antitoxin. Early treatment is important. Thus the mortality among 110 cases injected during the first three days was 12·7 per cent., among 120 injected between the fourth and seventh days 23·3 per cent., and among 91 injected after the seventh day 44 per cent.

J. D. ROLLESTON.

Treatment of diphtheria (*Berlin. klin. Wochens.*, 1909, p. 1202).—**F. Meyer**.—The constant presence of severe lesions of the suprarenals in animals poisoned by diphtheria toxin and the fall in blood-pressure preceding death suggested to Meyer the use of adrenalin in large doses for the circulatory disturbance in diphtheria. The subcutaneous injection of 1 c.c. of adrenalin chloride (1 in 1000) in 19 c.c. of normal saline solution is recommended. Unlike Pospischill Meyer never had any local abscesses from this treatment (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1909, p. 133).

J. D. ROLLESTON.

The treatment of hæmophilia (*Progrès méd.*, May, 1909, No. 21, p. 265).—**G. Laroche** and **E. Vaucher** give a review of our present knowledge of this subject with an extensive bibliography. In speaking of the

treatment of this condition they remark the use of *gelatin*, which may be applied locally during an attack of epistaxis (P. Carnot), introduced through the digestive track as an enema, or subcutaneously (20 to 100 c.c. of artificial serum gelatinised to 1 to 5 per cent.). Heyman and Baginsky have met with success, P. Carnot speaks with reserve, while Labbé and Froin have shown that it has no action on hæmorrhages and that the coagulability of the blood was not increased in their patients. *Thyroid* feeding (Dejage, Combemale, B. Jones, Faller) has been sometimes followed by success. The administration of *liver* extract has given no appreciable result. Wright and Carnot have used chloride of calcium both locally and internally as preventive and curative, but the action is only transitory, and Wright, moreover, has shown that if the administration is continued for more than three days, the coagulability of the blood, at first increased, becomes diminished. It must therefore be given in doses of 2 to 4 grm. for periods of three days followed by a similar period of repose. Lactate of calcium was more efficacious and better tolerated. *Injection of horse-serum* seems the best treatment; Frey and Weil have shown its action on the blood of hæmophiles. In sporadic hæmophilia, sero-therapy renders the coagulation normal at the end of two days; its effect lasts twenty-five days and then diminishes. At the end of three months the anomalous condition of the blood becomes re-established. The treatment does not act upon the cause of the hæmophilia, but influences its physiological mechanism. In hereditary hæmophilia coagulation is accelerated, but remains abnormal in time and form. The serum of man, rabbit, horse and ox have proved effective, although *in vitro* the action of human serum is the most marked in arresting the hæmastic lesions. Fresh serum must be employed, although results have even followed the use of that three months old. Bovine serum alone caused serious accidents and therefore must be avoided. If fresh horse-serum cannot be obtained anti-diphtheritic serum can be used. For intra-venous injection the dose is 10 to 20 c.c., subcutaneously 20 to 40 c.c.

VINCENT DICKINSON.

Oxygen in severe cases of whooping-cough (*Lyon Méd.*, August, 1909, No. 34, p. 309).—E. Weill and G. Mouriquand treated thirty cases of this disease by inhalation of oxygen given every hour. Their cases may be divided into two classes: (1) Those in which the severity of the attacks themselves placed the child in danger, and (2) those in which bronchopneumonia was threatened. In almost all the cases the result of the use of oxygen was simple; there was a marked lessening in the violence of the attacks but rarely a diminution in their number. From the point of view of gravity the number of attacks is of less importance than their violence and duration, which often entail the threatening of asphyxia. The sedative action of the oxygen is usually rapid, and hence cyanosis diminishes even during the attacks. It also has a beneficial effect on the prostration and somnolence so common during the intervals. Its stimulating action minimises anorexia and often increases the appetite to an extraordinary extent. The authors consider their method of treatment compares most favourably with that by antipyrin or morphine. The gas can be washed before its administration, which should not be niggardly, 10–20 litres being given at the commencement of a paroxysm.

VINCENT DICKINSON.

The internal administration of protargol in children's diseases (*La Pediatria*, August, 1909, No. 8, p. 618).—A. Ramacci has given this

drug in (1) acute gastro-enteritis and infantile cholera, (2) catarrh of the large intestine, and (3) acute and chronic catarrh of the small intestine. The drug was given in 100 gr. of vehicle, half syrup and half distilled water, in doses varying from 60 centigr. to 1·30 grm. *per diem*. The result was in all instances good. In cases where the patient had been placed on a water diet, and where bismuth, hydrochloric acid, lactic acid, and tannate of quinine had failed, the desired effect was produced by protargol.

VINCENT DICKINSON.

Polyvalent anti-dysenteric serum in the treatment of infantile dysentery (*Journ. de Med. de Bordeaux*, August, 1909).—**Coyne and Auchê** publish seven cases, all of which were cured. Some were due to Shiga's bacillus and some to the Flexner group. Improvement began usually within twelve hours after the injection of 10 c.c. of this polyvalent serum, even though some of the cases were in a very grave condition previous to its administration. The temperature fell, the stools became less frequent and more normal, and the general condition improved. Most of the cases had been under treatment for a week or more without improvement before the serum was given.

J. PORTER PARKINSON.

Ophthalmology.

Observations on experimentally induced choked disc (*Bull. of the Johns Hopkins Hosp.*, April, 1909, p. 95).—**Harvey Cushing and Bordley** report the results of experiments on some twenty dogs. They were able to reproduce both acute and chronic papillitis indistinguishable from that characteristic of tumour of the brain. The subject is fully discussed. They conclude (1) that the occurrence of the neuro-retinal cedema is primarily dependent on the passage of cerebro-spinal fluid under tension from the sub-arachnoid spaces of the interpeduncular region into the vaginal sheath of the optic nerve, and that cerebral decompression often allows the process to subside, owing to a resultant diminution of tension from release of the confined fluid; and (2) that the experimental work corroborates many of the more recent clinical observations in showing that a choked disc, even of considerable height, may be rapid in its formation, and, provided it has not gone on to the stage of new tissue formation, may rapidly subside; and thus speaks strongly in favour of a mechanical as opposed to a chemical or inflammatory origin for the lesion.

ERNEST JONES (Toronto).

Otology, Laryngology, and Rhinology.

Mastoiditis due to the micro-organisms of Vincent's angina (*Journ. Amer. Med. Assoc.*, vol. LIII, 1909, p. 116).—**D. G. Yates**.—A girl, aged 12 years, who had been suffering from a neglected ear discharge for several months, was admitted to hospital with a mastoid abscess. Examination of the thick and fetid pus evacuated revealed Vincent's organisms, which were still present more than a month after the abscess had been opened. Recovery took place after irrigation with normal saline solution and North's lactic acid preparation.

J. D. ROLLESTON.

Inspiratory stridor and dyspnoea in infants (*'Arch. of Pediat.,'* xxvi, 1909, p. 401).—**A. D. Blackader** and **H. S. Muckleston** discuss congenital laryngeal stridor and thymic asthma, and record some illustrative cases. Most recent observers regard congenital laryngeal stridor as due to defective development of the larynx itself rather than to any spasm or inco-ordination. Cyanosis rarely occurs because the passage is seldom completely closed as in laryngismus. In most cases the stridor is noted a few days after birth. Both sexes are equally susceptible. One sixth of the recorded cases have died from respiratory affections. The stridor due to an enlarged thymus differs markedly from congenital stridor. It is present both with expiration and inspiration, is persistent, is not influenced by sleep, and is often associated with intense dyspnoea and cyanosis.
J. D. ROLLESTON.

Return of laryngeal symptoms at the time of the serum rash in children suffering from laryngeal diphtheria (*'Gaz. hebdomadaire de Bordeaux,'* 1909, p. 279).—**Rocaz** and **F. Carles** record five cases in which, four days after injection and concurrently with the serum urticaria, there was a return of laryngeal symptoms necessitating in three cases intubation and in one tracheotomy. All recovered. Two of the patients were boys and three girls. The condition is attributed to a laryngeal enanthem, oedema of the laryngeal mucosa being co-existent with the cutaneous eruption. The occurrence of laryngeal symptoms during the serum disease was described by Sevestre and Aubertin in 1903, but is very uncommon. (Among 222 cases of laryngeal diphtheria observed by the abstractor, in only three was the serum rash associated with a return of the laryngeal symptoms, but in no case were they sufficiently urgent to require surgical interference.)
J. D. ROLLESTON.

Adenoids, nocturnal incontinence and the thyroid gland (*'Lancet,'* May 1, 1909).—**Williams** gives thirteen cases in which he used thyroid extract in connection with the treatment of adenoids and nocturnal enuresis in children. He believes that adenoids can no longer be regarded as a cause of nocturnal enuresis. He has had remarkably good results in treating this condition with thyroid extract, although he cannot explain the good results of his method of treatment.
MACLEOD YEARSLEY.

Anæsthesia for adenoid and tonsil operations (*'Boston Med. and Surg. Journ.,'* July 15, 1909).—**A. H. Miller** advocates nitrous oxide, ethyl chloride, or a single administration of ether when the operation is a short one; in long operations he prefers ether or chloroform by means of a Junker apparatus. He notes the danger of chloroform on account of the lymphatic diathesis.
MACLEOD YEARSLEY.

Aural complications in the exanthemata (*'Boston Med. and Surg. Journ.,'* July 15, 1909).—**C. R. C. Borden** discusses the ear complications of measles, scarlet fever and diphtheria only, with illustrative cases. In conclusion, he emphasises the greater frequency of middle-ear inflammation in children than in adults during scarlet fever, pointing out that in measles the relative liability is equal. He urges the necessity of early operative interference.
MACLEOD YEARSLEY.

Congenital occlusion of the cartilaginous canal (*'Boston Med. and Surg. Journ.,'* July 15, 1909).—**H. P. Mosher** describes the interesting

condition found in girl twins, aged 4 years. In both the cartilaginous canal gradually tapered to a point and about half an inch in became occluded. One twin had at birth a malformation of the left lower eyelid, since corrected. Both children were otherwise normal. Exploratory operations were undertaken. The description of the conditions found should be read in the original paper, with the illustrations given.

MACLEOD YEARSLEY.

The faucial tonsils and the teeth (*Journ. Amer. Med. Assoc.*, June 19, 1909).—**Hudson-Makuen** describes in detail the close inter-relation between diseased conditions of the tonsils and teeth, and states that we cannot cure mouth-breathing and its resultant disastrous effects in all cases by merely removing tonsils and adenoids. When there are dental irregularities coincident, these, too, must be regulated. Tonsils cause dental deformity by pressure on the molars. Old degenerated tonsils should be removed though they are no longer active.

MACLEOD YEARSLEY.

Politzerisation in children (*Arch. f. Ohrenheilk.*, Bd. 76, Heft 1 and 2).—**Gomperz** points out that Wall politzerises young children who refrain from crying at the moment when such crying is necessary for inflation by passing a finger or a spatula to the base of the child's tongue and inflating during the retching movements thereby set up. Gomperz, with the same object, has the child's head held back and inflates *via* the nostril whilst an assistant syringes water into the child's mouth. He has a strong belief in the value of politzerisation in the treatment of acute otitis in early infancy, but does not employ it until the acute inflammatory phenomena are on the wane. In very young infants the bag should be compressed in the smallest possible manner.

MACLEOD YEARSLEY.

Otogenous intra-cranial complications in children; presentation of a case (*New Orleans Med. and Surg. Journ.*, January, 1909).—**Homer Dupuy** considers extension to intra-cranial structures from temporal bone suppurations from (1) perforations through the tegmenta tympani et antri and the sulcus of the lateral sinus; (2) through natural channels, along the facial and auditory nerves, cochlea, and semicircular canals; (3) through the blood and lymph-vessels. He points out the vulnerable area of the petrosquamosal suture and the "safety-valve action" of the squamo-mastoid suture. The case is described of a male child, aged 5 years, with lateral sinus thrombosis and extra-dural abscess, who recovered after operation.

MACLEOD YEARSLEY.

Adenoid hypertrophy during the first year of life and its treatment (*Journ. Amer. Med. Assoc.*, August 21, 1909).—**Freeman** emphasises the following points: Prominent symptoms are (1) snuffles, (2) mouth-breathing, (3) recurrent colds, (4) cough, (5) otitis media. Operation in infancy can be done quickly without anæsthetic and with very little shock, and if adenoids do cause symptoms they should be operated upon even as early as the fourth or fifth month of life. If an anæsthetic must be used it should be nitrous oxide.

MACLEOD YEARSLEY.

Diagnosis of otogenic meningitis (*Journ. Amer. Med. Assoc.*, September 11, 1909).—**Mygind** discusses otogenic meningitis and does not agree that it is caused by retention of pus in the middle ear, but rather by

the nature of the suppuration combined with the anatomic relations of the petrous bone and mastoid process. There is but one trustworthy objective sign, viz. turbidity of the cerebro-spinal fluid, obtained by lumbar puncture. The disease is an acute febrile one with diffuse brain symptoms, but focal symptoms are frequent, viz. nystagmus, facial paralysis, Jacksonian epilepsy, hemiplegia, irregular pupil, cervical rigidity, and Kernig's sign. Meningitic symptoms rarely occur sooner than a week after the onset of an acute suppurative middle-ear process. True meningitis is differentiated from meningismus, so common in the child, by its more acute course and the fact that otogenic meningitis rarely occurs in infants under one year. Lumbar puncture should always be done for diagnostic purposes, but has no therapeutic effects.

MACLEOD YEARSLEY.

Surgery.

Imperforate anus with recto-vesical fistula (*Arch. of Pediat.*, 1909, p. 133).—**E. F. Kiser**.—The patient was a male child who was operated on three hours after birth. A perinæal incision was made without an anæsthetic, and carried up for $1\frac{1}{4}$ in., but no rectal pouch could be found. Inguinal colostomy was not performed owing to the child's general condition. Death occurred on the twelfth day. At the autopsy the rectal pouch was found communicating with the bladder through a fistula $\frac{1}{4}$ in. in diameter. The family history is of interest. The patient was the fourth child. The first children were twins. Of these the girl was normal, but the boy had an imperforate anus and died in a few days without operation. The next child, a girl, was normal.

J. D. ROLLESTON.

Congenital hypertrophic pyloric stenosis (*Arch. of Pediat.*, xxvi, pp. 275 and 283).—**J. F. Bell** and **B. F. Curtis**.—A girl, weighing $9\frac{3}{4}$ lb. at birth, began vomiting in a forcible manner after nursing when six days old. For two weeks the weight remained stationary, and then began to fall, and the urine and fæces became scanty. Examination showed distension of the gastric region, while the lower part of the abdomen was flat and soft. Medical measures proving unsuccessful, an operation was performed by Curtis when the child was nine weeks old. The pylorus was found to be the seat of a tumour, which proved to be a fibro-myoma and was removed by incising the muscular and peritoneal coats only and leaving the mucous membrane intact. Owing to threatened collapse stomach feeding was begun very early after the operation, and vomiting soon ceased. When seen nearly two months after the operation the child weighed 12 lb. 2 oz.

J. D. ROLLESTON.

Fibroma sublinguale (Riga disease) (*Med. Press.*, August 4, 1909).—**Kantz** reports the case of a child, aged 9 months, who until a fortnight previously had been perfectly healthy. It had been breast-fed and had cut its first teeth when six months old. In the frænum linguæ was a large clear swelling, covered with a fungus, around the base of which a red greyish annulus, hard and resisting, was present. The diagnosis was fibroma sublinguale, or Riga disease, as it has been called recently, the condition being very common in that district. These fibromata are considered to arise from the irritation of the cutting of the incisors and feeding at the breast. The treatment in such cases is patience, as the swelling may disappear spontaneously, but if removed, will recur.

T. R. WHIPHAM.

Adeno-sarcoma in the newly-born (*Transvaal Med. Journ.*, March, 1909).—**De Villiers** reports a case of tumour in the right parotid region, which was present at birth, and had reached the size of a pigeon's egg in ten days. When the child was a month old an attempt was made to remove the growth. The tumour was black in colour and very friable. A similar dark lump was found on the upper arm. A month later the tumour had recurred, and had spread so that it nearly closed the right eye and greatly interfered with deglutition, the child being scarcely able to open its mouth. Microscopically the tumour proved to be an adeno-sarcoma.

T. R. WHIPHAM.

Another case of a foreign body in the right bronchus removed by bronchoscopy (*El Siglo Medico*, June 19, 1909).—**Botella** describes a case of suffocation in a child aged 5½ years who had swallowed a peanut. There was complete absence of breath-sounds on the right side of chest. The child was chloroformed, and a Killian tube of 7 mm. was passed which localised the position of the foreign body. Owing to difficulty of respiration the tube had to be quickly removed and artificial respiration resorted to, then tracheotomy after respiration had been established. The nut was withdrawn by a pair of forceps introduced through the tracheotomy wound.

M. D. EDER.

Appendicitis in children (*Prag. med. Wochens.*, February 18, 25, 1909).—**Springer** gives the results of nearly 100 cases treated during the last eight years at the Children's Hospital. His youngest case was aged 3 years; after five years the cases are as frequent as in the later years of life. Out of sixty-eight acute cases, fifty-two were boys, sixteen girls. The appendix is relatively longer in children than in adults, and usually lies with its free end in the small pelvis. Hence when no pain is felt at McBurney's point it may be obtained on pressure somewhat lower. Rectal examination is most important in children, and it should be borne in mind that it is very common to have some bladder symptoms in appendicitis among children. Apart from pain and dysuria in micturition in acute cases there is retention of urine in subacute cases, and this in some cases may lead one to regard the bladder as the affected organ. More commonly than in adults the attack begins acutely. A leucocyte count is of little use in practice, and the writer has quite given it up of late years without feeling the loss. The nature of the stools is not of the slightest importance; diarrhoea is not much less common than constipation. The differential diagnosis is easier than in adults since a number of diseases can be at once excluded, and among girls only a salpingitis comes into question; an examination of the vulva for discharge must never be omitted. Other acute abdominal diseases like intussusception and colic have to be considered; coxitis, spondylitis, and pneumonia must be excluded. The prognosis is the same as for adults—very favourable when the case is diagnosed early and treated promptly. Every case of acute disease when a diagnosis is established within forty-eight hours should be submitted to operation. Unfortunately many doctors temporise in these cases; to "wait with the knife in the hand" is a pretty phrase, but nothing more. The patient bears the risk. Out of thirteen cases treated within forty-eight hours of onset there was not one death. All cases of chronic appendicitis should be operated. Many an obscure and chronic case of colitis or secondary anæmia is of this nature. The diagnosis of chronic appendicitis is not difficult in children. Palpation is easy; the appendix is often palpable. These cases should not be treated symptomatically for years, but operated upon and cured forthwith.

M. D. EDER.

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

VOL. VII.

FEBRUARY, 1910.

No. 74.

Original Articles.

A CASE OF CYCLIC OR RECURRENT VOMITING
ASSOCIATED WITH HYPERTROPHIC STENOSIS OF
THE PYLORUS.

By A. E. RUSSELL, M.D., F.R.C.P.,
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THE patient was a boy, C. G—, aged 4 years and 9 months. He was admitted into St. Thomas's Hospital on July the 24th, 1909, and died on August the 22nd.

From birth he had been liable every few months to attacks of vomiting associated with epigastric pain. These would come on suddenly and would last for about twenty-four hours, the vomiting being repeated several times in the day. He was much exhausted by the attacks and would be kept in bed for a few days after one. The mother described him as a nervous child. The bowels were rather constipated and the stools frequently contained mucus. At the age of $2\frac{1}{2}$ years he had measles with bronchitis. The mother has one other child, a girl, aged 9 years, who is in good health.

HISTORY OF FINAL ILLNESS.

On the evening of July the 22nd the child complained of epigastric pain and began to vomit (six or eight times daily). The

colour of the vomited material was yellow until July the 24th, when it became coffee-coloured. The bowels had been regular up to July the 21st, but from that date constipation was present. They were opened by enema on July the 24th.

On admission to hospital on July the 24th the child was emaciated, pale, and in a state of collapse, with sunken eyes and feeble pulse. He frequently vomited small quantities of coffee-ground material. His breath smelt strongly of acetone. The abdomen was retracted, and occasional peristalsis from left to right was observed in the epigastrium. The liver dulness commenced at the sixth rib in the nipple line and extended to the costal margin; its edge could not be felt. The spleen could not be felt.

The thoracic viscera showed no signs of disease. The knee-jerks were normal; plantar reflexes flexor. Temperature 101.4° F.

Urine.—Specific gravity 1039; slightly alkaline with a large deposit of phosphates. It contained no albumin, sugar, bile, pus, or blood.

The boy's illness in the hospital can be divided into three stages:

- (1) The full development of the attack for which he was admitted.
- (2) A stage of remission.
- (3) Recurrence of symptoms with fatal result.

The first stage lasted from July the 24th to July the 29th.

On admission the boy was so collapsed that subcutaneous infusion of one pint of normal saline was performed, and this was repeated on the three following days. He vomited several times each day, and as he could retain nothing by the mouth he was given five ounces of normal saline containing a drachm of bicarbonate of soda *per rectum* every six hours, and later a drachm of glucose was added. Strychnine was given subcutaneously. The urine was very scanty, measuring only from two to four ounces daily; it contained both acetone and diacetic acid. His temperature varied from 99° to 100.2° F. The outline of the stomach could be seen occasionally. Gastric lavage was performed twice, and a considerable quantity of gastric contents was evacuated each time. The bowels were absolutely constipated and were opened by enema on July the 28th.

Second stage.—Stage of remission. July the 30th to August the 16th.

The vomiting ceased on the night of July the 29th. Chloretone gr. ij was given on July the 30th in a suppository. He was put on small quantities of milk and albumin-water by mouth, and, as vomiting did not recur, this was rapidly increased; bread and butter, fish and chicken were gradually added, and by August the

5th he was taking food well. As soon as the vomiting ceased the urine increased in quantity and averaged about twenty-five ounces daily. On August the 2nd it still contained acetone and diacetic acid, but was free from these bodies on August the 5th.

Third stage.—Recurrence, death. August the 17th to August the 22nd.

The vomiting recurred on August the 17th. Food by mouth was discontinued and the rectal injections were resumed. On August the 18th the breath was free from any odour of acetone, and the urine contained neither acetone nor diacetic acid. On August the 20th acetone was present both in the breath and in the urine. The vomiting persisted. Any attempt at feeding by the mouth was followed by vomiting. The boy complained of epigastric pain and slight fulness was observed in that region. Chlorotone suppositories were again tried, but on August the 22nd the temperature rose to 104.2° F. before death.

AUTOPSY (MADE BY DR. H. B. WEIR).

The body was extremely emaciated. The weight six days before death was only 27½ lb. The stomach was considerably dilated and contained a fair amount of foodstuff. The lumen of the pylorus was very small and its wall was thickened, its length measuring about three quarters of an inch. No ulcer and no scar could be found. The transverse colon presented one portion an inch in length, which was narrowed and collapsed with its walls in contact; the neighbouring parts of the colon contained gas, and the transition was abrupt. The mucous membrane of small and large gut were healthy to the naked eye. The lower lobe of the right lung showed much purulent broncho-pneumonia. The remaining thoracic and abdominal viscera were normal. Microscopically the pylorus showed thickening of the muscular wall. The liver gave no fat reaction with Scharlach.

REMARKS.

A review of the symptoms observed in this case warrants the statement that they are practically identical with those described under the heading of cyclic or periodic vomiting of children. I asked my colleague, Dr. W. S. Colman, to see the child with me, and he regarded it as undoubtedly suffering from that affection.

I have been able to collect only ten other fatal cases. F. Lang-

mead has recorded three.* In one, aged 4 years and 11 months, the gastric glands were found to be degenerated, with small hæmorrhages between the tubules; in the second, aged 4 years, there was also some degeneration of the glandular epithelium; in the third, aged 4 years and 11 months, there were several shallow follicular ulcers in the stomach. Fatty changes were present in the liver in all three cases.

Eleanor C. Jones records one,† aged 3 years. There was no acetone in the urine; the stomach was normal, and the liver was fatty. Holt records one without post-mortem details, in which death occurred after an attack lasting seven weeks.‡ Crozier Griffiths records two,§ aged 5 and 6 years respectively, with autopsy in one (aged six years), in which were noted necrotic changes in the mucous membrane of the stomach and intestine, slight parenchymatous alterations in the pancreas, spleen and kidneys, and fatty infiltration in the liver. The body was extremely emaciated.

J. Comby notes three fatal cases in boys, each aged six years, but gives no details as regards autopsy findings.||

CURRENT VIEWS ON THE PATHOLOGY OF CYCLIC VOMITING.

Before discussing any bearing of the above case on this disease, the current views of the pathology of cyclic vomiting will be mentioned very briefly. The discovery of the acetone series of bodies naturally led to the supposition that they must be responsible for the attacks, but with a wider knowledge of the frequency of acidosis under various conditions this view is being modified. Acetone may be found in the breath and urine of children under a variety of conditions.

An adequate hypothesis must explain the attacks of vomiting, the presence of the acetone bodies, and the fatty liver which has been found in the majority of fatal cases.

Langmead¶ assumes that some poison is absorbed from the gastrointestinal tract, which causes the tissues to be flooded by an excess of fat derived from the subcutaneous tissues, an excess which gives rise to imperfect oxidation and so to acid poisoning. The fatty

* 'Brit. Med. Journ.,' February the 18th, 1905, and September the 28th, 1907.

† 'Arch. of Pediatrics,' June, 1909.

‡ 'Diseases of Infancy and Childhood.'

§ 'Amer. Journ. of Med. Sci.,' vol. cxx, 1900, p. 553.

|| 'Vomissements cycliques chez les enfants,' 'Arch. de Méd. des enfants,' 1909, October, p. 721.

¶ 'Brit. Med. Journ.,' September the 28th, 1907.

liver he regards as the result and not as the cause of the altered metabolism.

Howland and Richards* have observed an increased quantity of indican in the urine before and in the first few days of an attack. They assume in common with many writers on the subject an unstable nervous system, and conclude that as the result of some shock or excitement "a diminished power of oxidation results, and the organism loses the power to detoxify substances absorbed from the intestine which have been present there in excess. These circulate in the blood, exciting their poisonous action, and cannot be excreted by the kidneys because they are not brought to them in the proper form. It seems probable that they are excreted and re-absorbed by the stomach and intestine, in the light of which vomiting would appear to be eliminative and thus a protective mechanism."

Ewing† regards it as "a complex disturbance of metabolism occurring in neurotic and predisposed subjects, in which rapid burning of body fats, defective function of the liver, and poisoning by intestinal putrefactive products are combined."

Comby,‡ in an exhaustive paper on a series of 100 cases, suggests that the cause of cyclic vomiting is chronic appendicitis, and records eight cases in which appendicectomy was performed for the disease. In five cases no further attacks of vomiting occurred, but in three the attacks persisted. In Crozier Griffiths'§ fatal case the appendix had been removed in the last attack preceding the fatal one. It would therefore seem very improbable that the cause of the disease is to be found in chronic appendicitis.

Poisoning arising from the intestinal tract, with resulting imperfect oxidation of fats, and their accumulation in the liver, seem, therefore, to represent the current views as to the pathology of this remarkable affection. A nervous temperament has also been postulated as a factor, and it appears in some cases to have been associated with a tendency to migraine.

ACUTE STARVATION.

Now one of the most striking clinical manifestations of cyclic vomiting is the rapidity with which extreme emaciation occurs.

* 'Arch. of Ped.,' vol. xxiv, 1907, p. 401.

† "Studies from the Department of Pathology," 'Publications of Cornell Univ. Med. Coll.,' vol. viii, 1908.

‡ *Loc. cit.*

§ 'Arch. of Ped.,' vol. xxiv, 1907, p. 401.

Whatever view be held as to the causation of the disease *acute starvation* accompanies it.

The phenomena of acute starvation must therefore be considered, or at least those having a direct bearing on the subject.

Acetone bodies rapidly appear in the urine and breath in starvation. Ewing states that a pronounced acetone reaction is present in the urine in a few hours from the beginning of a fast. Howland and Richards state that the acetone bodies may appear in cyclic vomiting from three to four hours after the last full meal. In my case the final attack began on August the 17th. On the following day there was no smell of acetone in the breath and no diacetic acid in the urine. Both these signs were present on the 20th; no note as to their presence or absence was made on the 19th. They did not appear at the lowest estimate until over twenty-four hours had elapsed.

The relation of starvation to acidosis is a well-established fact and needs no further comment here. The subject has been critically reviewed by Dr. E. I. Spriggs,* who is also of opinion that the acidosis is secondary to the starvation induced by recurrent vomiting.

Fatty liver.—The liver has been found to be noticeably fatty in patients who have died of starvation. Leathes in particular has discussed the question of so-called fatty degeneration. Lebedeff, in 1883, showed that the fat in the liver in phosphorus poisoning was not formed from the proteid of the liver-cells, but was imported from the fat depôts of the body. This has been confirmed by Rosenfeld. Leathes and Dudgeon have shown that the fatty change in the heart brought about by the action of diphtheria toxin is due to the unmasking of fat already present in the heart, but not susceptible of histological staining, together with importation of additional fat. Mottram† has recently shown that in rabbits and guinea-pigs, after twenty-four hours' starvation, there is a huge increase in the visible liver fat and an increase in the percentage of the fat, but owing to the shrinkage of the liver in hunger the rise in percentage cannot always be attributed to an absolute increase of the total fat in the liver, though in many cases a large increase does occur, and that such increase is due to a migration of the depôt fat into the liver.

Fatty change would then be reasonably expected to be present in the liver of patients dying of cyclic vomiting, and such appears to be

* 'Quart. Journ. of Med.,' vol. ii, 1909, pp. 325-345.

† "Fatty Infiltration of Liver in Hunger," 'Journ. of Phys.,' vol. xxxviii, 1909, p. 281.

usually the case. It was, however, absent in my case, but the child was very emaciated. In the middle of the attack for which the boy was admitted into the hospital he weighed only 26 lb., a weight which would have been normal at the end of the second year of age, whereas his age was four years and nine months. Lebedeff found no fatty change in the liver of an extremely emaciated man who died from phosphorus poisoning, and Rosenfeld has shown, in both dogs and fowls, that the amount of fatty change in the liver after phosphorus poisoning varied directly with the amount of fat in the body, and in emaciated animals there might be none appreciable. The fact, therefore, that with extreme emaciation, in which the *dépôt* fat must have been all used up, there is no fat in the liver, is an additional argument in favour of the view that the fat in the liver is derived from the *dépôt* fat. The absence of fat in the liver, in the case under consideration may be also partly accounted for by the fact that glucose was administered *per rectum*. The metabolism of fat seems to require the presence of carbohydrate, and the glucose may have enabled it to be oxidised in this case.

I have gone into these details, as they tend to show that both the acidosis and the fatty liver can be explained by the acute starvation involved in cyclic vomiting, and that the cause of the vomiting is to be sought elsewhere.

THE PRESENCE OF HYPERTROPHIC STENOSIS OF THE PYLORUS IN THE AUTHOR'S CASE.

The interest of the case under discussion lies in the fact that the autopsy revealed the existence of well-marked hypertrophic stenosis of the pylorus with dilatation of the stomach. The possibility that this condition may have been the cause of the attacks of cyclic vomiting has, therefore, to be considered.

Hypertrophic stenosis of the pylorus is an affection of young infants, and the only case at all comparable to the one above described that I have been able to find in the literature was recorded by Dr. F. W. Shaw.* Unfortunately I have not been able to find the original paper, but it is quoted by Dr. J. Finley Bell.† The patient was a boy, aged 5 years, subject to recurrent attacks of vomiting and abdominal pain, each lasting several days; death occurred after an attack lasting ten days. At the post-mortem a hard mass of muscular tissue was found at the pylorus,

* 'Brooklyn Med. Journ.,' May, 1903.

† 'Arch. of Pediatrics,' April, 1909.

and while the canal admitted a probe under pressure, it was absolutely tight to fluid. No mention is made in the abstract of the acetone bodies.

On examination of the post-mortem records of the fatal cases of cyclic vomiting no mention is made either of stenosis of the pylorus or of dilatation of the stomach.

[In his series of one hundred cases Comby notes dilatation of stomach as having been present in twenty-five, but gives no details as to the exact physical signs on which he bases the statement.]

Now whilst it is possible that hypertrophic stenosis of the pylorus might be overlooked at an autopsy on a child past the age at which that condition is apt to be present, yet it is impossible that it could have escaped detection in all.

Whilst, therefore, it is obvious that an actual stenosis of the pylorus is not an essential factor in the disease, its presence in this case may supply a clue to the causation of some attacks of this nature. Despite the well-marked stenosis the attacks were essentially intermittent, and it is submitted that they were due to the occurrence of *pyloric spasm* rendering the obstruction complete.

If we consider the current views of the pathology of hypertrophic stenosis of the pylorus, we find that pyloric spasm is credited by many not only with the production of the symptoms but with the production secondarily of the muscular hypertrophy. Mr. Shattock supports this view,* and assumes a hyperæsthetic condition of the pyloric mucosa with reflex closure when the stomach tries to pass its contents into the duodenum.

Koplik† classifies the cases according as spasm only is present or spasm with muscular hypertrophy.

G. F. Still regards spasm as the cause of the obstruction, and further, is of opinion that the degree of spasm may vary at different times in the same case.‡

We are probably justified in assuming that in the case under discussion there would be a tendency to muscular spasm.

On this hypothesis we have an adequate cause for the attacks of vomiting. So long as the spasm lasted the obstruction at the pylorus would be complete. Should it persist long enough the phenomena of acute starvation would of necessity follow, with resulting acidosis. The fatal issue followed on the inanition and exhaustion.

* "Idiopathic Dilatation of the Urinary Bladder," 'Proc. of the Roy. Soc. of Med.,' vol. ii, No. 2, 1908, Pathological Section.

† "Congenital Pyloric Spasm and Congenital Hypertrophic Stenosis of the Pylorus in Infancy," 'Amer. Journ. Med. Sci.,' July, 1908.

‡ 'Common Disorders of Childhood.'

In the present vague condition of our knowledge it is probable that more than one clinical entity lies hidden under the symptomatic and rather misleading name, "cyclic vomiting." It is not suggested that pyloric spasm is the active factor in all; but it is submitted that the evidence of this case goes far to prove that *recurrent pyloric spasm* is quite sufficient to account for recurrent attacks of vomiting associated with other symptoms, and presenting all the features described as characteristic of cyclic vomiting.

The hypothesis of muscular spasm is consistent also with the fact that in many cases the attack commences absolutely suddenly and unexpectedly. Relaxation of the spasm would be followed by the sudden cessation of the attack, which is often a very noticeable feature. In the event of death all evidence of narrowing of the pylorus would have disappeared.

It would be premature to speculate on the causes that might lead to pyloric spasm in young children until further observations have been made on cases of this nature.

BEARINGS ON TREATMENT.

The indications for treatment based on the view that pyloric spasm is the cause of many attacks of cyclic vomiting harmonise with what experience has been found to be useful.

All food should be withheld from the stomach from the commencement of an attack. Lavage would also alleviate symptoms and might quickly cut an attack short. Rectal feeding with normal saline should be instituted to replace loss of water from the tissues and to relieve the intense thirst. Glucose should be added to the saline, not only as a food, but also because the adequate utilisation of fat requires the co-operation of active carbohydrate metabolism. The symptoms attributable to the acidosis may be treated by adding bicarbonate of soda to the rectal feeds. In a severe case subcutaneous injections of saline should be used. Sedatives, such as morphia, have been used, and could be given either hypodermically or as a suppository. In this case chloretone was tried.

PURPURA FULMINANS.*

By J. D. ROLLESTON, M.A., M.D.Oxon.,

AND

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A BOY, aged 6 years, with no family history of purpura or bleeding, was admitted to the Grove Fever Hospital at 10.30 p.m. on January the 14th, 1910, certified as suffering from hæmorrhagic diphtheria. There had been a history of sore throat, headache, and vomiting ten days prior to admission.

No cultures of the throat had been taken, and no antitoxin had been given. Between 4.30 and 5 p.m. on the day of admission the mother had first noticed a large bruise on the right thigh.

On admission an extensive blackish-red ecchymosis was seen on the outer side of the right thigh, and there was a similar lesion on the right buttock. Apart from some indefinite desquamation on the trunk the rest of the skin was normal. The throat was clean, and showed no evidence of recent inflammation, but there were numerous carious teeth with pus exuding from the sockets. The right sub-maxillary lymph-glands were enlarged and tender. Temperature 100·4° F.

During the night and following day the ecchymosis rapidly spread so as to occupy the distribution represented in the photograph taken shortly before death, which occurred at 3.30 p.m. on January the 15th, less than twenty-four hours after the first appearance of purpura. Apart from a small area over the left elbow the lesions were confined to the lower limbs. They were very tender to the touch, and were accompanied by œdema of the feet and legs.

Death was preceded by extreme anæmia, vomiting, restlessness, and a subnormal temperature. The mind remained clear until the end. No hæmorrhages from any mucous membrane occurred. The vomit consisted of green fluid, and a stool passed a few hours before death was of normal colour and consistency. The urine contained a trace of albumin but no blood.

Blood-examination by Dr. McCrick.—Hæmoglobin, 50 per cent.; red cells, 1,780,000; colour index, 1·4; numerous microcytes; no poikilocytes nor normoblasts; white cells, 57,600.

* Photograph shown at the Section for the Study of Disease in Children of the Royal Society of Medicine, January the 28th, 1910.

Differential count (1000 cells counted) : Polymorphonuclears, 63·4 per cent. ; small lymphocytes, 26·8 per cent. ; large mononuclears, 2·5 per cent. ; eosinophiles, 1·0 per cent. ; myelocytes, one of which was eosinophilic, 6·3 per cent. ; mast cells, 0.

The blood-platelets were not increased.

The serum was markedly hæmolytic to normal human corpuscles in twelve hours in 1 in 50 dilution.

Streptococco-opsonic index 2·31.

At the autopsy the blood was found to be remarkably fluid and to show no tendency whatever to clot.



The present case exactly corresponds to Henoch's description of purpura fulminans in the extreme rapidity of the ecchymosis formation, the entire absence of hæmorrhages from the mucous membranes, or in the internal organs, and in its rapidly fatal course. As in Henoch's cases, nothing was to be found at the autopsy beyond marked anæmia of all the organs, including the brain and suprarenals, hæmorrhage into which had been noted in some cases of purpura. Microscopical sections of the liver and kidneys were made by Dr. McCririck and examined by Dr. H. D. Rolleston, who could find practically no morbid change in them.

Elliott, of Chicago, has recently collected fifty-six cases of purpura fulminans, including a personal case, but of these eighteen had hæmorrhages from the mucous membranes, and nine of the twenty

on whom an autopsy was performed showed hæmorrhages in the viscera. Four recovered, so that comparatively few, like the present case, merit the title of purpura fulminans as Henoch described it.

The average duration of the fifty-two fatal cases was fifty-two and a half hours after the first occurrence of purpura, the shortest being five hours and the longest ten days. Nineteen, like our own case, died within twenty-four hours.

Had the boy survived longer he would probably have developed gangrene or hæmorrhagic bullæ in the lesions, as occurred in several of the cases recorded. Sixteen of the cases published followed scarlet fever. In addition to eleven mentioned by Elliott are those of Bertling, Biss, Cullen, Miller, and Rice-Oxley.

As in one of Henoch's cases, the pre-existence of scarlet fever in our case was possible, but not certain. In favour of scarlet fever were the suggestive history, the desquamation, the submaxillary adenitis, which often occurs in convalescence from scarlet fever and was noted in several of the cases, and the isolation from the heart-blood of a streptococcus, which, according to Dr. McCrick, presented the following characters of the *Streptococcus scarlatinæ* described by Mervyn Gordon: well-formed chains, much acid formation, and marked curdling of litmus milk, and no turbidity in broth or gelatin at 37° C.

In any case it is highly probable that the condition of oral sepsis contributed to the development of purpura.

The diagnosis of hæmorrhagic diphtheria may be unhesitatingly rejected. In the first place the throat cultures showed no diphtheria bacilli. Secondly, apart from the very rare cases of purpura occurring in convalescence, skin hæmorrhages in diphtheria always occur during the acute stages of a severe attack, and are associated with other signs of malignancy, such as extensive membrane, faucial and palatal œdema, disproportionate adenopathy and fœtor, none of which were present in this case. Lastly, the distribution and size of the skin lesions were quite unlike those seen in hæmorrhagic diphtheria, in which they are almost invariably small and discrete.

The possibility of the case being one of hæmorrhagic smallpox, which Henoch mentions only to dismiss, may also be set aside. The boy had four good vaccination cicatrices, and the character of the onset, attendant symptoms, and distribution of the lesions, as well as the absence of exposure to infection, entirely negated such a diagnosis.

INVESTIGATION INTO OCCURRENCE OF ADENOIDS. 61

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AN INVESTIGATION INTO THE OCCURRENCE OF ADENOIDS IN THREE OF THE LONDON COUNTY COUNCIL ELEMENTARY SCHOOLS.

By MACLEOD YEARSLEY, F.R.C.S.,

Senior Surgeon to the Royal Ear Hospital; Medical Inspector of L.C.C. Deaf Schools; Lecturer to the Ealing Training College for Teachers of the Deaf, etc.

THE investigation, of which this paper gives the results, was undertaken at the request of Dr. Kerr, Chief Medical Officer (Education) to the London County Council, at the instance of the managers of the three schools forming the "Cook's Ground" group in Chelsea. The schools comprise the Walton Street, the Marlborough, and the Cook's Ground Elementary Schools, and the numbers contained therein at the time of the investigation are shown in the following table:

TABLE A.

School.	Departments.						Totals.
	Infants.	Mixed.	Junior mixed.	Senior mixed.	Boys.	Girls.	
Walton Street . . .	114	119	—	—	—	—	233
The Marlborough . . .	360	—	433	403	—	—	1196
Cook's Ground . . .	273	—	—	—	316	297	886
Totals . . .	747	119	433	403	316	297	2315

The investigation occupied the winter of 1907-08, and comprised

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an inquiry into the numbers of children suffering from enlarged tonsils, adenoids, or tonsils and adenoids, their relation to age, ear complications, condition of the teeth, palate shape, and aprosexia.

Owing to the fact that the method of investigation was changed after the first few days the results naturally fall into two groups, of which the second is more valuable from the point of view of statistics. At the Walton Street School and the senior and junior mixed departments of the Marlborough School every child was not examined, but the various standards and classes were visited, and those scholars whom the teachers reported as having ear disease, or as inattentive, mouth-breathers, or frequently "catching colds," were segregated and examined, together with those who seemed to me as likely to have adenoids from their appearance. In the infants' department of the Marlborough and in all three departments of the Cook's Ground Schools, however, I made a routine examination of every child. As it is obvious that, with these latter only, can any deductions and comparisons with normal children be drawn safely, these results have been shown separately and classified differently. The two investigations are, therefore, designated under the letters A and B.

INVESTIGATION A.

This relates entirely to Walton Street, in which there are two Departments, infants' and mixed, and to the senior and junior mixed departments of the Marlborough. Here certain scholars were selected as likely to have adenoids and examined. The number of children thus examined are shown in Table B.

TABLE B.—*Number of Scholars Selected for Examination.*

School.	Department.	Number on roll.	Number examined.
Walton Street	Infants . . .	114	53
	Mixed . . .	119	31
The Marlborough	Junior mixed . .	433	133
	Senior mixed . .	403	98
Totals . . .		1069	315

All were examined as to the presence of tonsils, adenoids, or both, but no note was taken of the teeth, except the occurrence of

irregular upper incisors, until the Marlborough children were reached. The results appear best in tables, of which the following have been compiled :

TABLE C.—*General Results.*

Sex.	Normal.	Tonsils.	Adenoids.	Tonsils and adenoids.	Ear complications.	Mouth-breathers.	
						Complete.	Partial.
Boys . .	60	7	24	104	4	64	17
Girls . .	51	3	11	55	8	25	5
Totals	111	10	35	159	12	89	22

Of the children with adenoids, three had frequent colds and one stuttered, whilst of those with tonsils and adenoids, ten had frequent colds and three stuttered (one of the latter was mentally defective). Of the twelve cases of ear complications, eight had discharge and four catarrhal middle-ear conditions; all had adenoids. Of the normal children, eight were complete and three partial mouth-breathers, but only one suffered from frequent colds; they all showed œdema of the inferior turbinals, but in none could any adenoids be discovered. The relation of mouth-breathing to adenoids is shown in Table D.

TABLE D.—*Analysis of Mouth-breathers.*

Mouth-breathers.		Normal.	Adenoids.	Totals.
Complete	Boys . .	7	57	64
	Girls . .	1	24	25
Partial	Boys . .	3	17	20
	Girls . .	0	2	2
Totals . .		11	100	111

The age incidence in the 315 scholars examined is shown in Table E, but as all the children in the departments referred to were not examined, it is impossible to compare the numbers with those of the normal children.

TABLE E.—*Age Incidence.*

Sex.	Condition.	Age in years.												Totals.
		3	4	5	6	7	8	9	10	11	12	13	14	
Boys {	Normal	0	2	6	2	4	7	9	3	7	7	10	3	60
	Adenoids	1	1	5	9	12	20	21	24	12	12	11	3	131
Girls {	Normal	0	1	5	1	4	12	4	9	6	5	2	2	51
	Adenoids	0	8	4	3	6	17	8	5	10	4	7	1	73
Totals . . .		1	12	20	15	26	56	42	41	35	28	30	9	315

The next point taken was that of *aprosexia*. Out of the 315 examined, 9 showed this condition, thus tabulated:

TABLE F.—*Aprosexia.*

Sex.	Normal.	Adenoids.	Mouth-breathers.
Boys . . .	0	6	5
Girls . . .	1	2	1
Totals . . .	1	8	6

The one case classified as "normal" (no adenoids or nasal abnormality to be detected) was an underfed child, aged 9 years, with bad home conditions. Her teeth were good and the palate broad and of normal height. These children with *aprosexia* will be included in Investigation B, when dealing with this subject.

The important question of the relations of palate shape in normal and adenoid children requires some discussion. In examining a large number of scholars it was found that the breadth of the palate fell into three groups, which, for convenience, have been classified as *broad*, *medium* and *narrow*, and that these could be grouped further as normally or abnormally high. The results of this classification are shown in Table G, in which the separation of the sexes has been considered unnecessary. Children having enlarged tonsils only are classed with the normal.

TABLE G.—*Palate Shape in Normal and Adenoid Children.*

Condition.	Normal height.			Abnormal height.			Totals.
	Broad.	Medium.	Narrow.	Broad.	Medium.	Narrow.	
Normal . . .	61	35	10	1	7	7	121
Adenoids . . .	74	55	24	4	23	14	194
Totals . . .	135	90	34	5	30	21	315

In the next five tables (H to M) are analysed the relations of carious teeth to tonsils and adenoids, to palate shape and to mouth-

TABLE H.—*Relation of Carious Teeth in Adenoid and Normal Children.*

Ages.	Condition.	Good teeth.	Number of carious teeth.												Total carious.	Irregular incisors.
			1	2	3	4	5	6	7	8	9	10	11	12		
7 to 14	Adenoids	40	7	24	23	15	7	5	3	3	5	3	2	1	98	8 in 138
	Normal	50	3	8	8	11	6	3	1	1	2	1	0	0	44	1 in 94

TABLE J.—*Carious Teeth and Palate Shape.*

Condition.	Palate shape.		Good teeth.	Number of carious teeth.												Totals.
				1	2	3	4	5	6	7	8	9	10	11	12	
Adenoids	Normal height	Broad	20*	3	10*	6	4*	3	0	2	0	2	0	1	1	32
		Medium	17	6	7	12	5	3	3*	0	1	0	1	0	0	38
		Narrow	3*	0	5	1	2	1	2	1	0	0	0	0	0	12
	Abnormal height	Broad	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Medium	3	0	2	1	2	0	0	0	2*	2	2	0	0	11
		Narrow	1	0	0	3	3*	0	0	0	1	0	1*	0	0	8
Normal	Normal height	Broad	21	1	3	4	6	3	1	1	0	0	0	0	0	19
		Medium	19	0	3	0	4	1	1	0	0	2	1	0	0	12
		Narrow	1	0	0	3	0	1	1*	0	1	0	0	0	0	6
	Abnormal height	Broad	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Medium	3	0	1	0	0	1	0	0	0	0	0	0	0	2
		Narrow	2	0	0	1	1	0	0	0	0	0	0	0	0	2
Totals			90	10	31	31	27	13	8	4	4	7	4	2	1	142

Each figure marked * includes one case presenting irregularity of the upper incisors
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TABLE K.—*Relation of Mouth-breathing and Carious Teeth.*

Month-breathers.	Good teeth.	Number of carious teeth.												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	
Complete	17 ¹	0	10	12	10 ²	2	2	0	2	3	0	1	0	42
Partial	8 ³	0	3	1	2 ⁴	1	1	1	0	0	0	0	1	10
Totals	25	0	13	13	12	3	3	1	2	3	0	1	1	52

¹ 4 normal; ² 1 normal; ³ 2 normal; ⁴ 1 normal, making a total of 8 normal children.

TABLE L.—*Relation of Mouth-breathing and Palate Shape.*

Condition.	Mouth-breathers.	Normal height.			Abnormal height.			Totals.
		Broad.	Medium.	Narrow.	Broad.	Medium.	Narrow.	
Adenoids {	Complete	14	20	6	2	6	5	53
	Partial	9	6	1	0	0	0	16
Normal {	Complete	1	4	0	0	0	1	6
	Partial	1	1	0	0	0	0	2
Totals		25	31	7	2	6	6	77

TABLE M.—*Cases having Irregularity of the Upper Incisors.*

No.	Sex.	Age.	Palate shape.	Teeth.	Adenoids.	Mouth-breathing.
1	Boy	8*	Narrow high	Not noted	Yes	No
2	"	9	"	11 carious	"	"
3	"	11	Broad	2 "	"	"
4	"	13	Narrow high	4 "	"	Yes
5	"	13	Broad	Good	"	"
6	"	14	Narrow	6 carious	No	No
7	Girl	8	Medium	3 "	Yes	Yes
8	"	9	Medium high	8 "	"	"
9	"	10	"	Good	No	No
10	"	12	Narrow	"	Yes	Yes

* From Walton Street, Mixed Department.

breathing, the relation of mouth-breathing to palate shape, and the cases which presented irregularities of the upper incisors. The figures under the heading "carious teeth" give the number which

were obviously decayed, no search being made for small spots of early dental caries. Scholars in whom no obvious caries could be detected are classified as having "good teeth." It need hardly be said that some of these may have had specks of decay hidden from view. Except for one case of irregularity of the upper incisors, these tables relate only to the junior and senior mixed departments of the Marlborough. The results emphasise the necessity for careful dental examination in elementary school children.

INVESTIGATION B.

From this were obtained results which are much more valuable than those given in the foregoing tables, since they enable us to compare the abnormal with the normal children. The number of scholars examined was 1246, of which 667 were boys and 579 were girls. The general results are shown in Table N.

TABLE N.—*General Results.*

Sex.	Normal.	Enlarged tonsils.	Adenoids.	Tonsils and adenoids.	Ear complications.	Mouth-breathers.	
						Complete.	Partial.
Boys . . .	400	33	66	168	14	76	18
Girls . . .	310	32	65	172	37	52	28
Totals . . .	710	65	131	340	51	128	46

Stated in percentages (which, perhaps, bring results more clearly home to the reader), it will be seen that, of 1246 children of both sexes, 56·9 per cent. were normal, 5·2 per cent. had enlarged tonsils, 10·5 per cent. had adenoids only, and 27·2 per cent. had both tonsils and adenoids. The greater frequency of the association of adenoids with hypertrophied tonsils is well known and will be referred to again later.

The children examined formed a very fair average sample of the class of scholars to be found in the elementary schools of a large city like London, and showed varying conditions of physique and home surroundings. In very poor neighbourhoods the percentage of adenoids (37·7) would in all probability be found higher, in better areas lower, and it may be taken that the children under consideration came somewhere midway between the two.

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Of the other points arising out of this table I shall leave the question of ear complications to be discussed later, and take next that of *mouth-breathing*.

TABLE O.—*Mouth-Breathers.*

Sex.	Mouth-breathers.				Normal.	Adenoids.	Tonsils and adenoids.	Totals.
Boys	{	Complete	.	.	12	25	38	75
		Partial	.	.	2	3	14	19
Girls	{	Complete	.	.	8	17	27	52
		Partial	.	.	5	7	16	28
Totals					27	52	95	174

Out of the 1246 children, 174 were complete or partial mouth-breathers, *i. e.* 13·9 per cent. showed this symptom (72·9 per cent. of the mouth-breathers were complete and 27·0 per cent. partial). Of these, 27 (15·5 per cent.) were normal, 52 (29·3 per cent.) had adenoids, and 95 (57·5 per cent.) had adenoids and tonsils. The normal children who were mouth-breathers showed various conditions of nasal obstruction due to other causes, the remaining 147 showing marked adenoids. One child must be mentioned whose mouth-breathing was due to enormously hypertrophied tonsils, which completely blocked the oro-pharynx, so that breathing could only be carried out through the mouth. Their removal resulted in immediate restoration of nasal breathing. I mention this case because I do not think enough stress has been laid upon the fact that mouth-breathing

TABLE P.—*Age Incidence.*

Sex.	Condition.	Age.												Totals.
		3	4	5	6	7	8	9	10	11	12	13	14	
Boys {	Normal *	11	29	53	75	45	29	31	42	39	31	46	3	434
	Adenoids .	0	9	28	48	37	33	15	20	12	15	14	2	233
Girls {	Normal *	5	23	49	59	37	23	32	28	27	23	28	8	342
	Adenoids .	0	7	18	51	28	23	28	14	23	26	18	1	237
Totals . . .		16	68	148	233	147	108	106	104	101	95	106	14	1246

* Includes those with enlarged tonsils only.

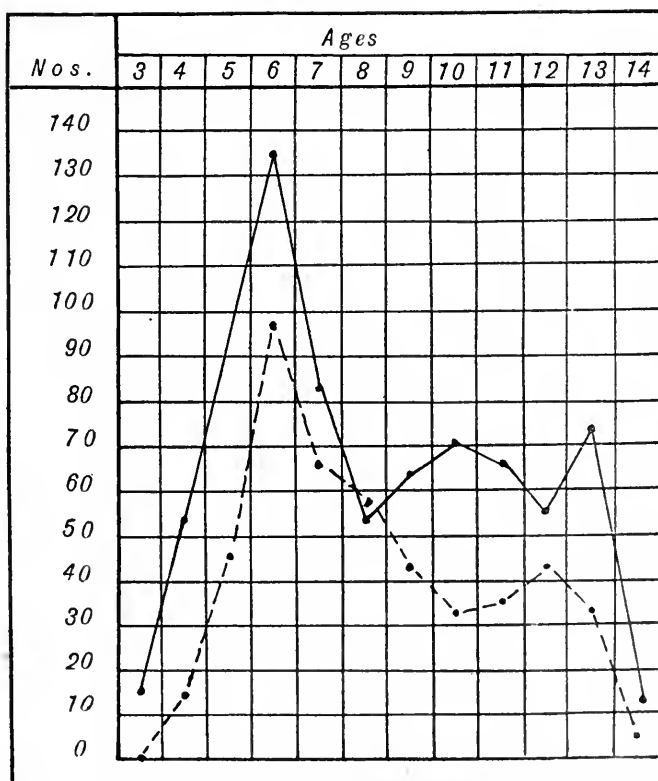
may be entirely owing to large tonsils, although it is a phenomenon of by no means infrequent occurrence.

I shall have occasion to refer again to mouth-breathing in connection with dental caries and palate shape.

In working out this table of *age incidence* I reduced it to a question of curves, and found that the curves relating to the sexes followed one another so closely as to be of no moment, a fact which, considering the allied physiological condition of the sexes before puberty, is not surprising. The most useful curves were those showing the relation between normal and adenoid children at different ages, both as regards numbers and percentages, and these I give in the two following tables, P¹ and P².

If we compare the curves in Table P¹, it will be seen that between the ages of 3 and 7 years the numbers of normal and adenoid

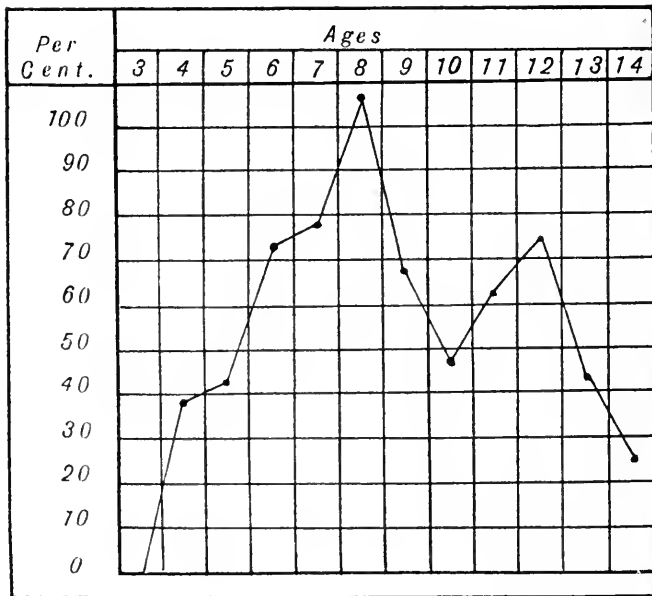
TABLE P¹.—*Curves showing Numbers of Normal and Adenoid Children at Different Ages.*



The normal children are shown by ———, the adenoid children by - - - -

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TABLE P².—*Curves showing Percentage of Adenoid Children at Different Ages.*



children follow one another closely, that between 7 and 10 there are fewer cases of adenoids than of normal children, that between 10 and 12 the adenoids take the ascendant, declining between 12 and 14, and becoming considerably less compared with the normal at 13 years. The same course is shown more markedly if the curve is taken on the percentage system, a method by which one can gauge much more accurately the incidence of adenoids at the different periods between the ages of 3 and 14 years.* The actual percentages were :

Age . .	3	4	5	6	7	8	9	10	11	12	13	14
Percentage	0	38	41	73	79	107	68	48	63	75	43	27

showing that the most frequent age for adenoids is 8 years, and that there is a second period, at 12 years, when adenoids are again more frequently found.

The observations of other investigators are in accord with the above. Sprague ('Boston Med. and Surg. Journ.,' vol. clv, pp. 400-405), in his "Observations on One Thousand Adenoid Cases," of which 503 were boys and 497 girls, found the ages varied from 6

* It may be noted here that those children who had had their adenoids removed were classed as adenoid cases.

months to 37 years, and that the largest number at any one age was 64 at 8 years, only 28 being over 21 years. Between 1 and 7 there were 30 per cent., between 7 and 14, 50 per cent., and between 14 and 21, 20 per cent. McBride and Logan Turner ('Edinburgh Med. Journ.,' April, May and June, 1897) examined 500 cases, in which the age was noted in 488. They found the condition to be "most common between 6 and 15," the numbers being—0 to 5 years, 57; 6 to 10 years, 141; and 11 to 15 years, 115.

Aprosexia.—The frequency of aprosexia among adenoid children is the next question to which I would draw attention. As, in this matter, a careful search for cases of true aprosexia was made in all departments of all the schools examined, and care was taken to ensure that none of them escaped observation, those that have been mentioned already in Investigation A may be included here.

The term "aprosexia" was first suggested by Guye, of Amsterdam, in 1887, to describe a condition not infrequently met with in children who suffer from a marked degree of adenoids. The word is derived from *α, priv.*, and *προσέχειν*, to heed, and means a defective power of attention. The defective condition consists chiefly in a want of concentration. In adenoid subjects mental concentration seems often impossible, or the effort necessary for it appears to exhaust them in a very short time. Continental writers seem inclined to attribute this to the lymphatic connection which exists between the nose and the subarachnoid space. It is due probably to interference with the cerebral hæmic or lymphatic circulation and the deficient oxygenation of the blood which is supplied to the brain. The investigations of Lichtwitz and Sabrazes ('Arch. Internat. de Laryngol.,' vol. xii, No. 6) have shown that children with adenoids suffer from a mild form of anæmia and leukæmia, a condition which cannot fail to react disadvantageously upon so actively growing an organ as the brain. The later work of Tormene ('Arch. Ital. di Otol., etc.,' November, 1907), in which he divides the red blood-corpuscles into three groups according to their resistance—maximum, medium, and minimum—shows that in advanced cases there is an increase of the maximum resistance, which continues for not less than six weeks after removal of adenoids, when it gradually sinks to normal. Tormene suggests that, as in certain morbid states (*e.g.* icterus), a substance possessing a katatonic action is found in the blood, there may be in adenoid subjects a substance with hæmo-anatonic action which will affect certain groups of red corpuscles in an opposite sense to the action of the katatonic agents.

(To be continued.)

CASE OF SPASMUS NUTANS WITH NYSTAGMUS.

By J. BOYD BARRETT, M.B.,

Assistant Surgeon, Children's Hospital, Temple Street, Dublin.

A GIRL, aged 8 months, displaying this interesting condition was seen by me some days ago. The occurrence of a typical case during a month associated with the ætiology of the disease is not without interest.

The mother was greatly alarmed, as she fully believed the child was an imbecile. She was, she said, comforted by an old woman, who told her that the child would get all right, as she had seen another child with a similar disease, and it was now quite well. The prognosis of the old lady is much to be commended, and we hope she has not confounded the condition with *petit mal*; but let her have every credit.

The disease commenced when the child was five months old. It was now at the worst. The mother could not say definitely whether the nystagmus had preceded the head-movements or *vice-versâ*.

The child presents side-to-side movements of the head with short intervals of repose. The motions are gentle and rapid, and differ markedly from the "head-banging" of idiocy.

The intervals of rest are irregular, lasting from some seconds to some minutes, and include the time when the child's head is reposing on a pillow or its mother's shoulder. When active the motions number about 100 per minute.

The nystagmus consists of fine horizontal oscillations. There are also periods of repose. The head and eyes move at times together. At other times they are independent of each other.

The child has a "coy" way of looking at an observer out of the corner of the eyes—a characteristic emphasised by Dr. Still. This latter peculiarity and the quietude of the head when resting against anything are considered diagnostic.

The nystagmus and the motions of the head are increased by any effort of the child to watch an object. The motions of the head are lateral. I have not seen any antero-posterior.

The condition in this case, like laryngismus stridulus, tetany, and facial irritability, is probably due to rickets. Although I could observe no osseous changes, nor any of the grosser indications of rickets, I believe it is the more likely cause. There possibly exists a catarrhal condition of the intestine, which keeps the nervous

system in a state of irritation. The osseous changes in rickets, while all-important, are only a part of the disease, a serious manifestation of it. Besides, this child at the age of eight months has no teeth, has been fed only on milk diluted with an equal portion of barley-water, and kicks off the clothes at night.

The theory of the relation of dentition to spasmus nutans might be urged. But this child is not cutting its teeth. There is no sign of teeth at all. It must also be remembered that the disease was first noticed at the age of five months, when few children are troubled with teething.

The "leading" question about living in a dark room was, as was expected, answered in the affirmative. Little importance can be attached to this.

In conclusion, I noticed at times marked shaking of the hands and arms. This is recorded in two of Dr. Still's cases and two of the thirty-five of Dr. J. Thompson.

The Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, January the 28th, 1910.

Dr. H. D. ROLLESTON *in the Chair.*

A Case of Congenital Œdema with Dilatation of the Intestinal Lymphatics was described by Dr. DAVID FORSYTH. A boy, aged 7 weeks, weighing 4.25 kilos., was admitted to the Evelina Hospital on account of his œdematous arms and legs. He was an only child. From the first his left hand, left foot, penis, and scrotum were much swollen. His right leg was affected to a less degree. No family history of congenital œdema could be obtained. The back of the left hand was enormously swollen, looking as if it had been blown up tightly with air. The fingers and wrist were normal, but the œdema appeared again in the forearm. The dorsum of the left foot and the outer side of the left leg showed another large œdematous mass. The right arm and foot were swollen. The penis and scrotum were thrice their proper size. All these œdematous areas pitted readily. The face and trunk showed nothing amiss. The patient seemed to pass an average quantity of urine, which contained no albumin. After a sudden rise of temperature he died somewhat unexpectedly.

Post-mortem examination: The œdematous patch on the left leg was incised, and appeared as a greyish-white, gelatinous mass. Microscopically,

it was composed of connective tissue, with large spaces which had been distended with clear fluid. The peritoneum covering the stomach, intestines, and mesentery was opaque, slate-coloured, and very greatly thickened. Freely scattered over it were numbers of white specks, which at first sight seemed to be lymph, but on closer examination were found to lie beneath the peritoneum. In many places they were arranged in fairly regular lines running across the axis of the gut, and many projected above the surface of the peritoneum. Under the microscope they proved to be distended lacteals. The mesenteric glands were healthy. About 100 c.c. of non-fatty turbid fluid had collected in the peritoneum. The heart, lungs, and other viscera were healthy.

A Specimen of Hemiatrophy of Cerebral Hemisphere was shown by Dr. H. D. ROLLESTON and Dr. A. C. D. FIRTH. A girl, aged 1 year and 2 months, was admitted for hemiplegia. The mother gave a history of a series of fits at irregular intervals, the paralysis being noticed after the last. Examination showed spastic paralysis of the right arm and leg, and hemianopia involving the temporal half of the left retina and the nasal half of the right. The child died from meningitis. Post-mortem the left cerebral hemisphere was markedly atrophic.

A Specimen of Prolapse of Intestine through Ectopia Vesicæ was shown by Dr. A. C. D. FIRTH. The child was admitted, when a few hours old, for ectopia vesicæ and imperforate anus. Shortly after admission meconium was passed *via* the bladder, and three days later a portion of intestine, $1\frac{1}{2}$ in. in length, prolapsed the same way. Flatus and fæces were passed through the prolapsed gut. The child died on the sixth day after admission. The specimen, consisting of bladder and intestines, was removed *en masse*. Coming through the posterior wall of the bladder is the portion of prolapsed intestine. On the posterior aspect of the bladder the small intestine alone enters the fistula. Immediately to the left of the opening into the bladder are the cæcum and appendix. No mesentery is present. In addition to these defects, post-mortem examination showed congenital cystic disease of both kidneys and marked hypertrophy of the pylorus.

Malignant Diphtheria with Multiple Lesions in an Infant.—Dr. J. D. ROLLESTON showed a specimen of the fauces and pharynx of a female child, aged 6 weeks, hand-fed, who was admitted to the Grove Fever Hospital on December the 4th, 1909, on the fourth day of disease, with membrane on the tonsils, anterior pillars, uvula, pharynx, and epiglottis. Membrane was also seen in the anterior nares, on the buccal mucosa, extending inwards from each corner of the mouth, on the labia majora, and on the skin round the anus. From all these lesions diphtheria bacilli were cultivated. Twelve thousand units of antitoxin were given subcutaneously on admission and on each of the two following days. Palatal palsy occurred on December the 6th, and death took place the same day. The temperature was subnormal throughout the child's stay in hospital. The autopsy showed double broncho-pneumonia and an infarct in the lower lobe of the right lung. An anti-mortem clot was found in the right ventricle.

Dr. J. D. ROLLESTON said that this case was of interest on account of the early age of the patient, the multiplicity and unusual situation of the lesions, and the malignant character of the attack. The rarity of diphtheria during the first year, and especially during the first two months of life, was

illustrated by the following figures: Of 7285 cases of diphtheria admitted to the Grove Fever Hospital between August the 23rd, 1899, and December the 31st, 1909, only 76, or 1·04 per cent., were under 1 year, and of these only 4, including the present case, were under two months of age.

Diphtheria in infants is often confined to the nose; in some cases it affects the larynx as well, but in the present case not only were the fauces, nose, and epiglottis affected, but also the buccal mucosa and skin of the ano-genital region. The ano-genital diphtheria was probably caused by auto-inoculation of pre-existent lesions due to diarrhœa. Cutaneous diphtheria co-existent with diphtheritic angina, which was so frequent in the time of Bretonneau and Trousseau, was rarely seen nowadays. The malignant character of the attack was shown by the absence of reaction to large doses of antitoxin, and by the early development* of palatal paralysis. The present case had been artificially fed, but children at the breast were not altogether immune to diphtheria. Epidemics in sucklings had been recorded by Siredey* in 1877, at the Hôpital Lariboisière and Hôpital des Enfants Assistés in Paris, by Schlichter† in 1892, and by Riethe‡ in 1897 at foundling hospitals in Vienna, and there were about a dozen sporadic cases in recent literature of diphtheria acquired by sucklings within the first two months of life. In many, but by no means all, of these cases the mother or other members of the same family had recently had diphtheria. In the present case the source of infection could not be determined.

A Case of Enlarged Spleen was shown by Dr. VINCENT DICKINSON. The patient was a female, aged 2 years, born of Italian parents in England. Father had suffered from some venereal disease when aged 23 years. Mother healthy; no miscarriages. Patient was breast-fed for seven months. Always had a large abdomen. When four months old began to refuse food. Admitted December the 15th, 1909. Emaciated, anæmia, rickety thorax, distended abdomen, spleen much enlarged, sharp border, with notch, reaching almost to middle line, and downwards nearly to iliac crest; liver felt below costal border; no marked glandular enlargement. Blood-film showed leucocytes normal in amount, and normal proportion of different varieties. Ten days after admission diarrhœa supervened, and on January the 6th she had an attack of tetany involving the hands and feet, with retraction of the head. The child has greatly improved. The spleen is much reduced in size; Calmette's reaction negative.

A Case of Separation and Displacement Forwards of the Lower Epiphysis of the Femur treated by Plate and Screws was shown by Mr. DOUGLAS DREW. Male, aged $8\frac{1}{2}$ years, was knocked down and run over by a van on November the 30th, 1909. He was admitted to the Queen's Hospital for Children shortly after the accident. The region of the knee was much swollen, and above the swelling there was a depression in the front of the thigh, as though the knee were displaced forwards. The radiograph (taken a few days later, after failure to reduce the deformity under anæsthesia), shows the lower epiphysis of the femur displaced forwards on to the front of the shaft of the bone and rotated through nearly 90°, so that the articular surface looks directly forwards. It is to be noted that the epiphysal line is oblique, downwards and backwards.

* 'Thèse de Paris,' 1877.

† 'Archiv f. Kinderheilk.,' xiv, 1892, p. 129.

‡ 'Wien. klin. Woch.,' 1897, p. 666.

December the 9th.—The fracture was treated by operation, the epiphysis being fixed in position by means of Lane's plate and screws. The limb was placed in a splint bent to a right angle. Massage and passive movement were begun within three weeks, and active movement a week later.

January the 19th (six weeks).—Child can now walk. Movements at knee are good.

Three Cases of Family Idiocy without characteristic Ophthalmoscopic Signs were shown by Dr. F. PARKES WEBER. A female child, aged 14 months, is unable to sit up, and owing to weakness in the muscles of the back and neck, its head falls backwards if not supported. It cannot move about; it cannot even turn or roll itself over in the bed from one side to the other. When it sucks from a feeding-bottle the movements of its jaws appear automatic; they suggest the automatic movements of a frog deprived of its cerebrum. It never attempts to grasp or even to touch anything, not even the feeding-bottle. There is a variable amount of rigidity affecting the trunk and both upper and lower extremities. There is vertical nystagmus at times. Ophthalmoscopic examination shows nothing characteristic of family amaurotic idiocy. The child is practically blind, though it can still perceive a bright light, and will occasionally follow an electric lamp with its eyes. The pupils react promptly to light. There seems to be nothing abnormal in regard to cutaneous sensation, hearing, or taste. The child notices at once if its milk is unsweetened. The disease has been a very chronic one. Weakness in the muscles of the back and neck was observed at three months of age.

Two other children besides the patient have suffered from the same condition.

A Case of Internal Hydrocephalus and Amaurosis without definite Ophthalmoscopic Changes, following Symptoms of Posterior Basic Meningitis, was shown by Dr. F. PARKES WEBER. A boy, aged $4\frac{1}{2}$ months. He had seemed healthy until eight days before admission, when he commenced to suffer from slight convulsions, spasmodic movements of eyes, and diarrhoea. Since admission to the hospital the child has seemed almost blind, and has become increasingly apathetic. There have been no convulsions. Decided retraction of the head was at first very noticeable, but is less marked at present. The head was gradually increased in size. Its circumference on November the 8th, 1909, was $18\frac{1}{8}$ in., and on January the 24th, 1910, was $20\frac{5}{8}$ in. There is often considerable spasticity of the lower extremities.

A Case of Splenomegaly and Hydrocephalus was shown by Dr. F. PARKES WEBER. The patient was a boy, aged 13 months. He was very pale, with a large head, measuring $20\frac{5}{8}$ in., in circumference, and an open anterior fontanelle of about the size of a shilling. The liver extended three finger-breadths below the costal margin. Examination of the blood showed: Hæmoglobin, 29 per cent., red cells, 2,568,000 in the cubic millimetre of blood; white cells, 6300 (small lymphocytes 33 per cent., large lymphocytes 24 per cent., eosinophiles 1 per cent., basophiles 6 per cent.). Although there was no history of congenital syphilis, the treatment adopted has been chiefly anti-syphilitic. The child's condition has slowly but decidedly improved. Wassermann's reaction for syphilis gave a negative result.

A Case of Abnormal Congenital Pigmentation of One Eye was shown by Mr. N. BISHOP HARMAN. A little girl, aged $2\frac{1}{2}$ years. Condition first noticed at age of six months. Right eye: Iris almost black. At the distance of a yard the difference between iris and pupil can scarcely be detected; the sclera is covered with patches of brownish-black pigment. Left eye: White sclera and dark-brown iris. Parents are normal-eyed. This excessive pigmentation is very rare. It is occasionally seen in Dalmatian (plum-pudding) dogs.

Two Cases of Familial Discoid or Coppock Cataract were shown by Mr. N. BISHOP HARMAN. The patients are two sisters, the younger girl aged 7 years, the elder girl aged 9 years. The parents are normal-eyed, and another sister, aged 2 years, is normal. The cataract consists of a small plaque of density, of perfectly circular outline, of uniform density, situated in the lens substance between the lens nucleus and the posterior pole. It is symmetrical in the two eyes. It measures 3 mm. in the elder and 2.5 mm. in the younger girl. The density is so slight that the details of the fundus can be seen through it, and unless the eye is examined by light projected into it by a plane mirror, it is likely to be missed.

A Case of Spastic Diplegia with Mental Defect was shown by Dr. O. K. WILLIAMSON. A girl, aged $10\frac{1}{2}$ years. There is a history of forceps at birth. She did not walk until three years old, and from this time the mother noticed that she walked stiffly. She did not speak until about eight years of age. The girl gives the impression of being mentally defective. She can only say a few words. Distinct loss of power in both arms and also hands. Sensation appears to be normal. Both knee-jerks greatly exaggerated. Extensor response to plantar stimulation on left side, not definitely so on right side. On attempting to grasp an object coarse movements of the arm take place, and the mother has often noticed shaking movements of the limbs. The child's condition has remained unchanged up till the present time.

A Case of Cystic Swelling at the Root of the Nose was shown by Mr. P. MAYNARD HEATH. A boy, aged 5 years. A swelling of the forehead has been noticed for two months. It came on after an attack of chickenpox. A cyst is said to have been removed from the nose about two years ago. There is now a diffuse swelling at the root of the nose. The superficial part is cystic, and it appears to protrude between the nasal bones. It extends upwards between the eyebrows, and ends about the middle of the forehead. The bridge of the nose is widened and there is some irregularity of the nasal bones. Near the tip of the nose, in the mid-line of the dorsum, is a minute opening from which sebaceous matter can be squeezed. It appears to have no connection with the swelling at the root of the nose.

A Specimen of a Strangulated Ovarian Tumour was shown by Mr. J. G. SWAINSON. It was removed from a child, aged 2 years, who came to hospital with acute abdominal symptoms. The tumour was removed and the child made a good recovery.

A Case of Pseudo-Hypertrophic Muscular Paralysis was shown by Dr. A. MANUEL. The patient was a boy, aged $8\frac{1}{2}$ years, suffering from general weakness and difficulty in walking. Condition first noticed eighteen

months ago. An interesting feature of the case is that there is no family history of the disease.

A Case of Congenital Aortic Stenosis was shown by Dr. A. MANUEL. Patient was a boy, aged 5 years, with a systolic thrill over both carotid arteries. The cardiac dulness was normal. A loud systolic murmur is audible over the præcordia. This is transmitted to the axilla and back.

A Case of Basedow's Disease in a Boy, aged 8 years, was shown by Dr. ERIC PRITCHARD and Mr. SYDNEY STEPHENSON. His father had been in an asylum for two years. The thyroid was enlarged and there was slight proptosis.

Some X-ray Photographs on the Epidiascope from a Boy, aged 3 years, the Subject of Habitual Constipation, were shown by Dr. SPRIGGS.

A Paper on a Case of Cyclic Vomiting in a Child Associated with Hypertrophic Stenosis of the Pylorus was read by Dr. A. E. RUSSELL.

A Paper on Infant Feeding was read by Dr. DONALD CARTER.

Provincial Societies.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

January the 21st, 1910.

Cases of Epilepsy.—Dr. E. F. TREVELYAN showed two twin Jew boys, aged 13 years, with typical epilepsy. They were the third and fourth of a family of ten children, all of whom had suffered from fits during teething. The fits, which had persisted in these boys and had recently become more frequent, appeared to be controlled by bromides.

Hat-pin in Bronchus.—Mr. BASIL HALL reported that a hat-pin, three inches long, was removed through a low tracheotomy opening in a boy, aged 12 years. The boy was holding the glass head of the pin between his teeth, when he made a sudden inspiratory effort and the pin disappeared. No symptoms occurred, but on placing him before an X-ray screen the pin could be seen lying in the left bronchus, the point being upwards close to the tracheal bifurcation. An attempt to seize the pin with forceps through a low tracheotomy wound failed, but on allowing the patient to become semi-conscious and then tickling the mucous membrane of the trachea the point of the pin appeared momentarily in the tracheotomy opening. On

repeating this manœuvre the pin was seized and removed. The tracheal incision was sutured and the wound closed.

Athetosis and Mental Dulness.—Dr. MAXWELL TELLING showed a child, aged 1 year and 10 months. History: Well up to September, 1909. Four months previously had a single "fit" (unconscious only), and well afterwards. In September, second fit; unconscious some time with paralysis of one side (? right). Since then had been dull, taking little notice, and there had been rapid athetoid movements of limbs. It was doubtful if vision was normal. The movements were especially marked in the lower limbs and toes and on the right side.

MIDLAND MEDICAL SOCIETY.

January the 19th, 1910.

A Case of Urticaria Pigmentosa.—Dr. DOUGLAS HEATH showed a female child, aged 2½ years, suffering from urticaria pigmentosa. The eruption had developed suddenly when the child was six months of age, a considerable number of brownish-red spots being seen on the abdomen, chest, and back. The eruption had continued to appear during the past two years, fresh spots being noticed from time to time. During last summer the eruption had been much more marked than during the winter. The child had suffered from many attacks of diarrhœa, and now and then some sickness had been present. When shown the child was seen to be fat and well nourished and with a healthy colour. The eruption was closely set and symmetrical in the lower half of the abdomen and on the upper adductor region of each thigh. On the upper half of the abdomen, on the front of the chest, on the neck and back the spots were more sparsely scattered, but quite numerous. The face and lower parts of arms and legs were unaffected. The spots were of a brownish-red colour when recent, and distinctly raised above the level of the skin. Older spots were flat and level with the skin and of a dull yellowish-brown colour. The spots were of almost uniform size, being round or slightly oval in shape, and being from one third to half an inch in diameter. When the skin was gently rubbed the spots could be felt to become slightly raised.

A Case of Hairy Mole under Treatment by Radium.—Mr. F. EMRYS-JONES showed a child, aged 4 months, with a hairy mole on the left cheek, in order to demonstrate the curative action of radium. Ten milligrammes of radium were applied over a portion of the mole on December the 16th for one hour and ten minutes. There was a fairly well-marked reaction, resulting in an adherent scab which appeared four weeks after application. At the time the patient was shown the scab had come away, and the area treated showed no pigmentation and all the hair had been removed. The state of the skin was excellent, there being some slight redness which would pass away.

Philadelphia Pediatric Society.

MEETING, January the 11th, 1910, J. CLAXTON GITTINGS, M.D., President.

Paroxysmal Hæmoglobinuria.—Dr. HOWARD CHILDS CARPENTER showed a girl, aged 6 years, with paroxysmal hæmoglobinuria. This is the second winter she has had attacks, which are brought on by exposure to cold. The attacks are typical, consisting of a distinct chill followed by fever, sweating around the head, and the immediate passage of urine containing a large amount of hæmoglobin. She usually has about one attack a week, but during the summer she remained free from paroxysms.

Dr. EMERY MARVEL said that it is difficult to fully reconcile one's convictions to the fact that every case of hæmoglobinuria is a disease entity. It seems more likely to think of the hæmoglobin in the urine as being due to some different exciting cause, that it is the expression of some underlying condition. One naturally thinks of calculus or hydronephrosis with the history given by Dr. Carpenter. Dr. Marvel then asked what investigations had been made to eliminate these conditions; whether there had been an X-ray examination, and whether at any time during the recurrences there had been enlargement of the kidney.

Dr. CARPENTER answered that two X-ray photographs had been made in this case, both of which failed to show either any calculus or enlargement of the kidney. Very few red blood-corpuscles were found in the urine at any time.

Interstitial Pneumonia.—Dr. J. CLAXTON GITTINGS showed a boy, aged 9 years, in whom the diagnosis had been made by exclusion. Six years before he had had measles followed by pneumonia, since which time cough, with more or less sputum, has been continuous, most in winter, least in summer. Two years ago the percussion note over the entire left lung was dull, breath-sounds were somewhat muffled, and moist râles were heard. To-day percussion gives dull tympany and expiration is slightly prolonged, but soft, suggesting emphysema; over the right upper lobe there is also slightly impaired resonance. Fine moist râles are heard over both areas. No sign of cavity or of bronchiectasis can be demonstrated, though the sputum is at times profuse and offensive. His chest is of the "chicken-breasted" type. There are no sweats. Evening temperature rarely exceeds normal. Sputum examinations have always failed to show tubercle bacilli. The boy looks well, having slowly gained in weight, in spite of his poor hygiene and diet, which remains mainly tea, coffee, and fresh bread. Although a tuberculous implantation is to be expected, it is impossible to conceive that the tubercle bacillus is the cause of the widespread lesions which have existed so long. No X-ray examination was ever made.

Dr. A. H. DAVISSON said that he thought the boy much better than he was some years ago. He had not considered the condition tuberculous at any time.

New and Simple Blood-pressure Apparatus.—Dr. DELNO E. KERCHER, by invitation, showed a very simple apparatus consisting of but three parts: a base bearing a glass mercury cistern connected to an upright glass tube lying on a 300 mm. scale for measuring the height of the mercury column; a strong cuff of cloth, 4 by 36 inches, with rubber pneumatic tube

in one end; and a rubber bulb with double valves, and three feet of tubing with connections for attaching to cuff and cistern. It is inexpensive, as there are no ground joints, valves, cocks, or expensive construction on it. It is very easy to manipulate, as follows. The stand with scale attached is placed near the arm to be tested, the scale having first been adjusted so that the 0-line will be at the level of the mercury in the column. The cuff is wound around the arm above the elbow, taking pains to have the pneumatic bag cover well the brachial artery. The cuff is fastened by tucking the free end under the previous turns. The connection in the end of the rubber tubing is now attached to the tubing coming from the cuff; the T-connection is slipped over the top of the cistern. The operator now takes the rubber bulb in one hand in such a manner that the tubing leading to the cistern is readily grasped between the thumb and fore-finger. The fingers of the other hand are free to be applied to the pulse or to manipulate the stethoscope, depending on which method one uses. Air is pumped into the cuff until the pulse is obliterated. The escape of this air is controlled by the pressure of the finger and thumb on the rubber tubing. The point on the scale at which the mercury stands when the pulse first reappears is the measure of the systolic pressure. The air is allowed to escape slowly, noting the point on the scale at which the greatest oscillation of the mercury column occurs. This gives the diastolic pressure. By removing the scale and cistern from the base, inserting corks in the top of cistern and column, this apparatus can be put into any convenient bag and readily carried about. It weighs fourteen ounces.

Dr. GITTINGS considered that this manometer filled a long-felt want of the general practitioner for a practical instrument at low cost.

Non-specific Acute Infections in Young Children.—Dr. HERBERT Fox reported twenty-two cases of non-specific infections, by which term he means, not diphtheria, measles, epidemic meningitis, scarlatina, tuberculosis, and the like; nor has he included infections of the gastro-intestinal tract. The cases were all children under ten years, and all but three under six years. In these cases, eleven of which were broncho-pneumonia, Dr. Fox describes the bacteriologic findings in detail.

Dr. HERMAN B. ALLYN said that broncho-pneumonia was serious for several reasons. It attacks, for the most part, children under five years of age, in whom resistance is abnormally low; it is especially prone to follow the infectious diseases of childhood, and may often be the cause of death. Not only is the disease dangerous to the small patient, but it is very wearing on the physician, as in no condition is it more difficult to make a definite statement as to duration and result. One of those cases of broncho-pneumonia, included in Dr. Fox's list, had a peculiar temperature chart, going from normal at 7 or 8 o'clock to the maximum—100° to 103° F.—by 11 o'clock each morning, gradually declining by night, when the child slept well. This forenoon rise may have been due to the hard and exhausting coughing which followed waking. In sending the specimens to Dr. Fox, Dr. Allyn had hoped that some specific micro-organism might be constantly found; in this he was apparently mistaken. It seems generally to be a mixed infection. He added that it was often wise to change the patient from one room for several hours every day, either to another, cool room, or to out of doors. He finally called attention to the importance of keeping the mouth clean.

Dr. W. M. L. COPLIN spoke of the problem of succeeding infections in

broncho-pneumonia. One infection appears to follow the other, several different infections often being found simultaneously as the disease progresses. This makes the outlook for vaccine therapy most discouraging; though any one strain may be combatted, the susceptibility to infection remains and other micro-organisms thrive. Dr. Coplin hesitated to discuss the relation between the bacteria of the pharynx and those found in infections of the trachea, bronchi, and lungs. There does not appear to be any necessary connection between the flora of the pharynx and that of the trachea, and consequently deductions from sputum examinations might be very misleading. Agonal infections which may appear suddenly and spread quite actively are frequently caused by most rapidly growing bacteria, and almost if not quite invariably are present in fatal cases; such facts render the results of post-mortem bacteriological examination also of doubtful value.

Dr. GITTINGS thought that one feature of the protracted cases of broncho-pneumonia which is of much importance was the difficulty in determining the onset of empyema. In some of these, exploratory puncture must be attempted several times before fluid is found. In private practice the objection to this procedure at times puts the physician at a distinct disadvantage. In view of the inefficiency of treatment, it is greatly to be hoped that vaccine therapy may prove to be of great value.

Dr. Fox added that vaccine therapy had better be let alone in broncho-pneumonia until we know more about vaccine treatment of children and the bacterial cause of the disease. May broncho-pneumonia not be a general instead of a local infection? In that case, should not a blood culture be made early in every case?

Dr. GITTINGS then delivered the Annual Presidential Address.

Société de Pédiatrie, Paris.

December the 21st, 1909.

The Detection of Blood in the Stools.—M. TRIBOULET finds the reaction to phenolphthalein superior to that with guaiacum and benzidine, the risk of error being less, and also because it facilitates the discovery of traces of blood of digestive origin and clinically unsuspected, as in cases of (1) old-standing purpura, Barlow's disease; (2) violent intestinal reactions with ecchymoses, acetonaemic disorders in young children, enterocolitis in older children simulating appendicitis; (3) various intestinal complications in pneumonia, measles, scarlatina, and diphtheria. Intestinal discharges, like those met with in certain cases of uræmia, connected with congestion of the digestive mucous membrane and bloody exudation mixed with the stools, are only detected in most cases by the red reaction with phenolphthalein.

Case of Trichotillomania.—MM. VOISIN and CLARAC showed a case of this affection in an epileptic idiot, aged 8 years. Since the age of two and a half years she had, whenever unoccupied, torn out her hair, always from the same area. Similar cases of auto-epilation are often met with in general paralysis or dementia, but are rare in idiocy.

Warty Nævus in Lines.—MM. APERT and PRUVOST showed two cases, one of whom showed Mongolian signs. In one case the eruption was

curiously localised and followed the distribution of the cutaneous nerves. Both had been treated with some success with large daily applications of pure glycerine. Improvement was noticed at the end of a week.

Nodding Spasm.—M. BARONNEIX showed a child, aged 15 months, who had from the age of two months transverse movements of the head and nystagmus. Examination of the fundus oculi excluded cerebral tumour, and the case seemed one of a special type analogous to epilepsy. It was noteworthy that this infant was nursed by a woman whose husband was the subject of several forms of tic.

Hæmorrhage from the External Iliac from Contact with a Drainage-tube.—MM. SAVARIAUD and BEAUVOISIN related a case of a child operated on for appendicitis complicated by peritonitis. The cavity was drained by means of large rigid tubes. On the sixteenth day bleeding occurred, which necessitated ligature of the external iliac artery above and below the arterial wound. Recovery ensued, and the case shows the advisability of using soft drainage-tubes in such cases, and preventing their coming in contact with the artery.

Muscular Atrophy of Charcot-Marie Type.—MM. DELILLE and DEBIÉ showed a case which was interesting owing to the age of onset—4 years. The disturbance was purely motor, *main en griffe* being well marked.

Cerebral Tumour.—M. GENEVRIER showed a large tumour which had invaded the whole of the protuberance and peduncles, the greater part of the optic thalamus, and the central nuclei of the right hemisphere. On the same side the temporal and occipital lobes and a part of the cerebellum were involved. The central nuclei and temporal lobe of the left side were encroached upon. In spite of this enormous extension there was no clinical sign of cerebral mischief. There existed a state of advanced cachexia without any motor, sensory, or psychic trouble. The tumour was an infiltrating glioma, but not completely destructive, which explained the relative integrity of the cerebral functions.

Severe Form of Rickets with Transitory Symptoms of Pseudo-leukæmia.—M. LEON TIXIER related the case of a child, aged 15 months, in a state of profound cachexia. The body-weight fell below 5 lb. Rickets would not account for the whole of the symptoms, and there was neither tuberculosis nor syphilis. The author noticed during the course of the illness a marked increase in the volume of the spleen, and the appearance in the peripheral vessels of a large quantity of nucleated red cells.

Latent Tuberculous Peritonitis in an Infant aged 6 months.—MM. LEON TIXIER and J. TROISIER drew attention to the rarity of localised tubercular lesions at this age. The diagnosis, easy enough in well-marked forms, was almost impossible in latent forms. Confusion with the large belly of rickets is frequent, and it is sometimes mistaken for megacolon or Hirschsprung's disease.

The Epidemic of Measles at Thiais.—M. VARIOT described the conditions under which the epidemic occurred, and attributed its severity to overcrowding and insanitary conditions of the localities involved.

Abstracts from Current Literature.

Medicine.

Early symptoms of poliomyelitis (*Arch. of Pediat.*, xxvi, 1909, p. 328).—**L. E. La Fétra** writes from his experience of 63 cases in the New York epidemic of 1907. The diagnosis was often difficult owing to the presence of symptoms simulating meningitis or neuritis. Thus restlessness and irritability were present in 37 cases, nuchal rigidity in 11, headache in 10, apathy in 10, stupor in 4, and pain and tenderness in the affected limbs in 32. Lumbar puncture was done in 14 cases. In every case the fluid was clear and sterile. It was under no pressure in four cases, slight pressure in five, and increased pressure in five. In only one case were any cells—a few mononuclears—found.

J. D. ROLLESTON.

Epidemic infantile paralysis (*Arch. of Pediat.*, xxvi, 1909, p. 364).—**A. Hymanson** records five unusual cases observed in the New York epidemic of 1907. Three showed facial paralysis, one fatal laryngeal and diaphragmatic paralysis, and one paralysis of the palatal and abdominal muscles.

J. D. ROLLESTON.

Occurrence of pepsin in the infant stomach (*Arch. of Pediat.*, xxvi, 1909, p. 341).—**W. R. Ramsey** made forty-seven examinations of gastric juice in infants whose ages ranged from eleven days to ten months in Heubner's clinic at the Charité in Berlin. His conclusions were: (1) The gastric juice of normal breast-fed infants contains pepsin. (2) The stomachs of infants suffering from acute dyspepsia usually contain pepsin. (3) In pylorospasm there is an abnormally large quantity of pepsin and HCl. (4) Pepsin is frequently absent from the stomachs of chronic atrophic infants, but returns with improvement of health and gain of weight. (5) The gastric juice of normal infants can convert proteids into peptone without any other acid than those present normally in the stomach. (6) The pepsin is capable of active digestion when lactic acid but no HCl is present. (7) Both HCl and lactic acid may be present in the gastric juice without pepsin, and pepsin may be present without HCl or lactic acid.

J. D. ROLLESTON.

Congenital heart disease (*Arch. of Pediat.*, xxvi, 1909, p. 368).—**A. Hand** (jun.) records a case in a coloured boy, aged 3 years, whose symptoms were those of angina pectoris. During life the heart was found to be enlarged, but there was no murmur. The autopsy showed defect of the ventricular septum, hypertrophy of the ventricular wall, especially of the left, and absence of the pulmonary artery. The thymus was also enlarged.

J. D. ROLLESTON.

Angioneurotic œdema (*Arch. of Pediat.*, xxvi, 1909, p. 372).—**S. Seilikovitch**.—This condition is characterised by the appearance of a circumscribed œdema of the skin or mucous membranes without any constitutional disturbance. All reported cases have occurred in neurotic persons. The exciting causes are exhaustion, cold, alcohol, trauma and gastro-intestinal disturbances. When the stomach is involved the symptoms are nausea, vomiting and colic. Seilikovitch regards cases of periodic

recurrent or cyclic vomiting and hydrops articulo-rum intermittens as due to angioneurotic oedema. His own case is the first on record of a death from this cause at so early an age. A female child, aged 3 weeks, developed a swelling of the genitals, which was relieved in a day by the application of camphorated oil. Subsequently the right side of the face and both arms became swollen. Death, which occurred at the age of five weeks in a convulsion, was preceded by reappearance of oedema of the labia majora and by a circumscribed swelling on the left calf. The mother was of an excitable disposition, and another of her children had had convulsions on the eruption of each tooth.

J. D. ROLLESTON.

Pick's disease (*'Pediatrics,'* 1909, p. 81).—**J. L. Rubinstein**.—Pick's disease is an abbreviation for pseudo-cirrhosis of the liver associated with polyserositis, the most striking lesion being a white glossy thickening of the peritoneal covering of the liver (sugar-coated liver). After relating the case of Professor Finsen, who made numerous observations and experiments on himself while suffering from this disease, Rubinstein records a case in a boy, aged 3 years. The first symptoms were swelling and tenderness of the abdomen accompanied by dyspnoea. Ascites with enlargement of the liver and spleen and a right pleural effusion were found. The urine contained a slight trace of bile, but there was no jaundice. Tuberculosis was suspected, but the ophthalmic reaction was negative. A few months later some fluid was detected in the pericardium. As in Finsen's case, the effusions disappeared under a salt-poor diet; increases in the intake of sodium chloride caused the ascites to reappear, but the pleural and pericardial effusions did not recur. Necrosis of the right tarsus, which was probably of tuberculous origin in spite of the negative tuberculin reaction, subsequently developed. When last examined the liver and spleen were larger, but there was no anasarca, ascites, nor any other effusion, and the general condition had improved. Salt-poor diet and tonic treatment seem to have been beneficial.

J. D. ROLLESTON.

The hard curds of infant stools (*'Arch. of Pediat.,'* xxvi, 1909, p. 241).—**T. S. Southworth** and **O. M. Schloss** dispute the statement made by Czerny and Keller that the hard curds of infants' stools contain no proteid but are simply masses of soaps and fatty acids. They examined typical curds in seventy-five stools passed by thirty-eight infants, and found that the proteid percentage ranged from 0.90 to 4.0. The hardness was found to be due to the relatively greater amount of protein, while the softer stools consisted mainly of fatty acids or fat.

J. D. ROLLESTON.

Endocarditis in typhoid fever in children (*'Thèses de Paris,'* 1908-1909, No. 4).—**Stepowski** has collected sixteen cases from literature in children whose ages ranged from three to fifteen years, including an original case observed in Mery's service at the Hôpital des Enfants Malades. Endocarditis is a rare complication of typhoid fever, but is a little commoner before fifteen years than later. It is most frequent at puberty, and is commoner in girls. The mitral valve is usually affected. In six cases endocarditis was associated with a pre-existent myocarditis and in four with pericarditis. The complication is rarely due to typhoid bacilli, but is usually the result of secondary infection by strepto- or staphylococci. It may often escape detection. The prognosis should be guarded owing to the possibility of cerebral and pulmonary embolism.

J. D. ROLLESTON.

Diphtheritic tracheo-bronchitis (*Thèses de Paris*, 1908-1909, No. 364).—**P. C. Fourest** records thirteen cases, including seven original ones from the fever hospital at Algiers. Only three of the thirteen recovered. The physical signs are: dulness of irregular distribution on both sides of the chest, absence of vocal resonance, diminution or loss of the vesicular murmur and the presence of coarse and sub-crepitant râles. The respiration is rapid, the dyspnoea continuous and rarely complicated by attacks of suffocation. The general state is one of toxæmia. In addition to early and massive doses of serum, early tracheotomy is advisable to diminish the danger of pulmonary complications, and to facilitate exploration of the trachea.

J. D. ROLLESTON.

Still's disease (*Arch. of Pediat.*, xxvi, 1909, p. 417).—**D. Hingston** records two cases: (1) A girl, aged 3 years; sudden onset with swelling and pain in right knee, lasting for a week. Diphtheria then developed and both knees and ankles became affected. Next year the elbows and wrists were attacked, and the fingers showed a smooth painless swelling. The supra-trochlear, inguinal and cervical glands, as well as the spleen, were enlarged. Treatment by fresh air, arsenic, massage, and passive movement of the affected joints was followed by complete recovery. (2) A girl, aged 2½ years, began to complain at intervals of pain in the right knee. The attacks subsequently became more frequent and severe, and the joint became swollen and flexed. In the course of the next two years the other knee, ankles, wrists, elbows, hands, cervical spine, and temporo-maxillary joints became affected. The lymph-glands and spleen were enlarged, and there was slight exophthalmos. Considerable improvement followed the use of arsenic, massage, and warm baths, but the treatment was not regularly carried out, and relapses were frequent.

J. D. ROLLESTON.

Cerebral diplegia (*Glasgow Med. Journ.*, July, 1908).—**R. Barclay Ness** reports the case of cerebral diplegia in a girl, aged 6 years. The child was small and puny at birth, and artificial respiration and other means were used to resuscitate her. Stiffness of the back and limbs was first noticed when the child was one year old, but it was possible that the spasticity was present even earlier as the child could never sit easily on the mother's knee, and any attempt to place her in this posture resulted in the back becoming stiff and the legs extended. There was no history of convulsions. The chief feature of the physical condition was more or less generalised rigidity, most marked in the legs. There were distinct kyphosis, some flexion and adduction of the arms, flexion and adduction of the thighs, with extension of the legs at the knees. The child could not stand or walk, because the legs in the extended position crossed so that one could not be brought in front of the other without great difficulty, and in the attempt the child required to be supported by the armpits. The muscles were well developed and firm from their constant state of spasm. The knee-jerks were greatly exaggerated, ankle clonus was present and Babinski's sign well marked. The arms were the seat of spasm also, but to a much less extent than the legs. There was athetosis of the right hand, which was easily brought out by any attempt of the child to grasp some object. The head was flattened in the posterior aspect, its circumference being eighteen and a quarter inches. The general intelligence of the child was a little below the normal. The tongue did not protrude, the palate was a little highly arched and the teeth were good. The sight was normal, there was neither nys-

tagmus nor strabismus, and the fundi were normal. Hearing was good, speech a little indistinct, and habits cleanly. She weighed 2 st. 4 lb., and was 3 ft. 4 in. in height. The following causes for the condition were suggested: The premature birth was due to some toxic agents, which also exerted their baneful influence upon the nervous system, causing actual degeneration of the cortical centres during foetal life. The toxic agents might have produced, on the other hand, a lowering of the vitality of the cells, in which case the child would have been born simply with an inherited tendency to degenerative changes taking place. Another possible cause of the cerebral diplegia might have been the asphyxia neonatorum which had led to cortical hæmorrhage, with destruction of the cortical centres and secondary degeneration of the motor tract.

JAMES E. H. SAWYER (Birmingham).

A case of bronchiolectasis (*St. Thomas's Hosp. Rep.*, vol. xxxv).—**H. R. Dean.**—A boy, aged 6 years. The child was said to have had pneumonia when one year old. He was admitted with pain in the chest and shortness of breath of three weeks' duration. He presented the usual signs of broncho-pneumonia. The child had several attacks of severe dyspnœa, after one of which he died. He was heard to whoop on several occasions. At the post-mortem slight recent pleural adhesions were found in both sides. The surface of the lungs showed numerous bullæ, and on section they had a honeycomb appearance. The cavities varied in size and appeared to communicate with the bronchi. There was no evidence of tuberculosis. Consolidation of a broncho-pneumonic type was present.

JAMES E. H. SAWYER (Birmingham).

Analysis of two hundred autopsies on infants (*Montreal Med. Journ.*, September, 1909).—**McCrae.**—Seventy-eight per cent. occur in the first three months of life. Bronchitis occurred in 31 cases, pneumonia in 69, most of these being lobular, it being lobar in 17 cases only, some of which were probably fused broncho-pneumonia. The pleura was not involved in the majority. Six cases had pleural effusion, small in amount; empyema was only seen once. Collapse in small amount was frequent, but only to a serious extent in a very small fraction. Generalised tuberculosis was found once only and emphysema in 9 cases. Gastritis was seen in 40 cases, mostly with intestinal disease, entero-colitis in 35, small intestine alone in 22 cases, and the colon alone in 13. Peritonitis occurred in 4 cases, usually due to umbilical infection. Splenic enlargement was seen in 16 cases. Hæmorrhagic areas in the adrenals were noted in 3 cases. Uratic crystals were found in the kidneys of 52 cases. Two cases of transposition of organs, one with pulmonary atresia and the second with patent foramen ovale and interventricular septum. Patent foramen ovale was found in 83 cases, patent ductus arteriosus in 19. Hæmatomata occurred on the mitral valve 12 times and on the tricuspid 5 times. Intra-cranial hæmorrhages due to birth injuries were found in 3 cases.

J. PORTER PARKINSON.

Ulcerative stomatitis associated with Vincent's bacillus (*Montreal Med. Journ.*, August, 1909).—**Cushing** illustrates the association of a mildly contagious form of ulcerative stomatitis with the presence of Vincent's bacillus, *i. e.* with the symbiosis of *Bacillus fusiformis* and *Spirochaete dentium*. These two organisms are almost invariably found together in masses, so that a smear from the lesion looks like a pure culture. The

spirochæte is supposed, but not proved, to be a stage in the life of the former organism. He claims that these two diseases are clinical entities, and are mildly infectious, and the characteristic organisms are found in almost pure culture in the lesions, especially close to the normal tissues. He quotes an epidemic in the Children's Memorial Hospital, in which two cases followed the initial one and the characteristic bacilli were found in all, and a second one of two cases in an orphan asylum in Montreal; in these latter potassium chlorate acted like a specific when local treatment had been ineffectual.

J. PORTER PARKINSON.

Diphtheria of the intestines (*'Montreal Med. Journ.,'* August, 1909).—**McKechnie** records the case of a child, aged 6 years, taken ill during a sea voyage with symptoms of mild dysentery, blood, pus and mucus being passed with the stools. After three weeks examination showed enormous quantities of streptococci, which rapidly disappeared under treatment with streptolytic serum, but the symptoms continued. Finally, cultures showed Klebs-Loeffler bacilli. An anti-diphtheritic serum was used with immediate improvement, and two days later a complete cast of the bowel four inches long was passed; this was shown to be a true diphtheritic membrane. The patellar reflexes were absent, and for a fortnight there was paralysis of the anus, which recovered.

J. PORTER PARKINSON.

Hæmatemesis and melæna in a child aged 10 years (*'Journ. de Med. de Bordeaux,'* August, 1909).—**Corimand** relates the case of a boy who, when in apparent health, suddenly vomited clots of blood. The next day he again vomited blood and passed *per anum* a quantity of liquid and clotted blood. Recovery gradually ensued, and six weeks later there was discovered a splenic enlargement reaching as far as the umbilicus. The case is mentioned owing to the rarity of severe hæmatemesis and melæna at this age, and the author makes no suggestion as to the nature of the disease.

J. PORTER PARKINSON.

Some unusual cases of disease in the first days of life (*'Allg. Wien. Med. Zeit.,'* March 9, 1909).—**Galatti** mentions among the cases seen in 1908 were hæmorrhagic diathesis in an infant which lived nine and three quarter hours: hæmorrhage from the umbilical arteries; uranoschisma leading to death in a week; melæna neonatorum which recovered under treatment. This consisted of several injections into the skin of the abdomen of 10 cm. of Merck's sterilised gelatine and every hour one teaspoonful of a 1 per cent. solution of gelatine. On the next day three injections each of 20 cm. of physiological salt solutions. The child was kept warm. There was also a case of peritonitis, which occurred on the third day, and was shown at the post-mortem to be the sequel to an infection of the cord.

M. D. EDER.

Syphilitic infection in children (*'Intercol. Med. Journ. of Austral.,'* March 20, 1909).—**Bennie** considers that the child has a syphilitic taint if either of the parents has ever had syphilis. He states that 10 per cent. of the Australian children are infected, and that for these children the chances of dying before puberty are seven times greater than for the non-syphilitic. Infected children should be treated in all their illnesses for the syphilitic factor, and surgeons should, before operating, submit these cases to a course of anti-syphilitic treatment.

M. D. EDER.

Barlow's disease (*'La Semana Med.,'* April 22, 1909).—**Possi** regards this disease as very uncommon in South America; cases have been published of its presence in Montevideo, Brazil, and the Argentine. In the last country thirteen cases have been published, four of them having occurred at the eighth month. Six of these infants had been previously fed on preserved beans, five at the breast, and one on boiled cow's milk. Under treatment recovery was very rapid, as was found in other countries. M. D. EDER.

A rare case of infantile syphilis (*'Brazil-Medico,'* April 8, 1909).—**Moncorvo Filho** reports a case where the mother of a healthy child suckled the child of a sick neighbour for a few days. Three weeks later the mother developed a hard chancre on the breast and in turn affected her own healthy suckling. The signs of syphilis were unequivocal. M. D. EDER.

Speech defects in children (*'Allg. Wien. med. Zeit.,'* April 13, 20, 27, 1909).—**Stern** draws a clear distinction between stammering and stuttering. Stammering is the mispronunciation or a failure to pronounce certain sounds—a *t* instead of *s* and so on. Stammering is to be cured by placing the lips, tongue, or teeth, according to the particular defect, in the right position. Small rods are very useful for this purpose. It is of no use merely uttering the sound for the child to attempt its repetition. Some cases depend upon nasal and dental defects, which must be first corrected by surgical or other means. Stuttering is a more difficult and very widespread defect. Following Kuszmaul he regards it as a spastic co-ordination neurosis dependent upon a spasm of the muscle setting in before or during speech. Speech requires the use of the muscles of breathing, sound, and articulation; spasm may occur in one or more of these groups. Stuttering is a not infrequent sequel to some acute zymotic disease; this is important from the point of early recognition and cure. It is a highly infectious disease, and some recommend that stuttering children should be excluded from the ordinary classes. It cannot be regarded as hereditary, but there may be some predisposition. There is no connection between stuttering and mental development; stuttering gives rise to anxiety and this reacts upon the speech defect. No case of stuttering resembles another; each one therefore requires careful psychological analysis in order to effect a cure. Like all other speech defects it is commoner in males. In quite young children it may be sufficient for a cure to establish right methods of breathing, to make easy syllable exercises. But in older children specific and general treatment is required. Prognosis is very good with proper treatment. The paper concludes with some reference to other speech defects. M. D. EDER.

Case of congenital myatonia (*'La Clin. Infant.,'* July, 1909, No. 13, p. 398).—**Lereboullet** and **Beaudoin** report the case of a male infant, aged 11 months, with atony and paralysis having their maximum intensity in the muscles of the neck. The paralytic symptoms showed no tendency to increase after birth. The diagnosis was amyotrophy of Werdnig-Hoffmann type or congenital myatonia of Oppenheim. There was hard oedema. Death occurred very rapidly, with hyperpyrexia and dyspnoea due to a pulmonary sepsis. The paralysis was general, but had its maximum intensity in the motor muscles of the head. This localisation is abnormal, as usually the lower limbs are most affected. Another noteworthy point was the presence of tonic and clonic convulsions, during which the flabbiness disappeared and gave place to contraction. Sorgente has noticed similar facts (*vide* 'La

Pediatrics, May, 1906). The brain and spinal cord were found normal when examined by the Nissi and Marchi methods. There was no diminution in size of the cells of the anterior cornua; the meninges and roots were normal. The muscles, on the other hand, showed undoubted alterations, especially those of the neck. Here sections showed marked lesions of the muscular fibres, which were of very unequal bulk; some very large, others very small, and there was considerable nuclear proliferation and in places invasion of the muscle tissue. Liver, thymus, and supra-renals were normal, and with the exception of a slight glomerular sclerosis, so was the kidney. The thyroid was well developed, with large gland-follicles stuffed with colloid substance.

VINCENT DICKINSON.

Staphylococcic scarlatinal meningitis (*Lyon Méd.*, 1909, No. 32, p. 225).—Weill and Mouriquand report the case of a boy, aged $3\frac{1}{2}$ years, admitted with scarlatina. Convalescence was interrupted by intense and persistent coryza, with some rheumatic manifestations. After a deceptive improvement symptoms of meningitis occurred, ending in death. The meningeal pus, as did the nasal discharge, gave an almost pure culture of *Staphylococcus albus*. Both middle ears contained pus, but the authors are of opinion that this lesion was not the direct cause of the meningitis, but the purulent nasal discharge. Injections of anti-streptococcic serum were used as a routine measure in post-scarlatinal infections. Anti-staphylococcic serum was not tried. Lumbar puncture gave no diagnostic information.

VINCENT DICKINSON.

Hemiplegia in scarlatina (*La Clin. Infant.*, July, 1909, No. 14, p. 420).—Gouget and Pélissier report the case of a girl, aged 6 years, attacked with hemiplegia on the fourteenth day of a severe attack of scarlet fever, when the temperature had almost fallen to normal— 37.7°C . There were no premonitory symptoms, but after a short convulsive attack a complete left hemiplegia was noticed which lasted more than five months, without contractures but with increased reflexes. With regard to the cause there was nothing to give rise to embolism, and the absence of fever excluded a focus of acute encephalitis; it lay, therefore, between thrombosis and hæmorrhage. The latter was negatived by the initial convulsions, the age, the absence of loss of consciousness and of predisposing cause such as nephritis. Scarlatinal paralysis occurs in severe cases and during the period of convalescence probably in connection with nephritis. Convulsions are usual at the onset; the paralysis is nearly always complete. Prognosis is unfavourable, most cases passing into a chronic state.

VINCENT DICKINSON.

Subacute tetanus; intra-venous and subcutaneous serum therapy; cure (*La Clin. Infant.*, July, 1909, No. 14, p. 428).—L. Martin and H. Darré report the case of a boy, aged 8 years, with a wound on the buttock caused by falling on a rake nine days previously; he had slight trismus and slight rigidity of the nuchal and lumbar muscles. Twenty c.c. anti-tetanic serum were given subcutaneously. The next day all the symptoms were worse—there was marked opisthotonos: 80 c.c. were given, intra-venous, enemas of choral 4 grm. in twenty-four hours, and bromide internally in the same quantity. The same evening there was marked improvement, and 40 c.c. were again given subcutaneously twelve hours after the intra-venous injection. The next day the injections were suspended but the drugs continued. This was followed by a relapse and they had to be resumed. In

eight days the child, who weighed 20 kilog., had 520 c.c. of serum, which were well borne; there was no albuminuria at any time. The symptoms of tetanus were in no way modified by an attack of broncho-pneumonia which supervened and which threatened to prove fatal. VINCENT DICKINSON.

Obliteration of the ductus choledochus ('*Med. Press,*' August 4, 1909).—**Goldreich** saw an infant, who had been jaundiced from birth, and whose stools were acholic. Later the child was seized with panophthalmitis and sepsis, from which it died in the seventh month. The post-mortem showed that both the ductus choledochus and the ductus hepaticus were totally obliterated, and the lesions appeared to have been congenital.

T. R. WHIPHAM.

Pathology.

On the relationship between the quantity of CaO in human milk and the hæmoglobin value of the infant's blood ('*La Pédiatrie,*' August, 1909, No. 8, p. 594).—**C. M. Oneco** states as the result of his experiments that—(1) the quantity of CaO contained in the milk of the nurse seems to be in direct proportion to the number of red corpuscles and hæmoglobin value of the blood of the nursed infant. (2) The blood of infants reared at the breast of women whose milk contains a high percentage of CaO contains a larger number of red cells and higher hæmoglobin value, and the blood of those reared by women whose milk contains a less percentage is poor in globules, etc. (3) The calcium content of human milk seems to proceed in great part from that contained in the organs of the woman herself, and its quantity is only influenced to a very limited extent by the organic calcium contained in the food, and is not modified at all by the administration of artificial preparation of calcium. (4) The calcium content of the nurse's milk should be ascertained whenever any alteration is found in the blood of an infant at the breast. VINCENT DICKINSON.

Therapeutics.

Subcutaneous injection of sea-water ('*Arch. of Pediat.,*' xxvi, 1909, p. 352).—**T. Le Boutillier** records twenty-one cases of malnutrition in which this method, introduced by Quinton, was used (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1907, p. 460). The amount injected varied from 10 c.c. to 30 c.c. The injections were given as a rule three times a week, in acute cases daily for five or six days. In each case marked improvement in the gastro-intestinal condition and a gain in weight from half an ounce to one ounce daily were observed. J. D. ROLLESTON.

Treatment of staphylococcus infection ('*Pediatrics,*' 1909, p. 155).—**A. C. Soper** treated twenty cases of staphylococcus infection, the majority of which were furunculosis, in children whose ages ranged from two months to seven years, by the injection of dead staphylococci. The treatment was given independently of the opsonic index, and was regulated by the clinical manifestations only. Most of the cases recovered rapidly without recurrence.

J. D. ROLLESTON.

Anti-meningococcic serum in acute cerebro-spinal meningitis ('*La Clin. Infant.,*' August, 1909, No. 15, p. 466).—**Eschbach**, of Bourges, reports

two unsuccessful cases which were of the fulminating type. There was no epidemic at the time, but one of the children had been operated on three weeks previously for adenoids, and it is possible that the raw surface favoured infection. Dopter's serum was used in addition to hot baths, frictions with collargol, artificial serum, etc. The presence of Weichselbaum's coccus was not confirmed. In one case the turbid cerebro-spinal fluid showed changed polynuclears but no micro-organisms, in the other case an extra-cellular diplococcus, decolorised by Gram's method. In one case the serum was only injected on the fifth day of the illness; in the other an intra-spinal injection was made twenty-four hours after the onset of the illness, but the child died the same evening thirty-six hours after the appearance of the first symptoms. This is explained by the mode of action of all therapeutic serums; their effect requires at least twelve to twenty-four hours, and shows the necessity of resorting to it early in the case.

VINCENT DICKINSON.

Otology, Laryngology, and Rhinology.

On otitis media varicellosa (*Allg. Wien. med. Zeit.*, February 9, 16, 23, March 2, 1909).—**Jacod** gives the details of nine cases of varicella which give rise to otorrhœa of varying severity. In some cases this was the only complication, but in others there were skin complications or nasal and buccopharyngeal inflammations, with tonsillitis. In some cases the varicella attacks an ear which has been subject to a middle-ear disease and there is then an acute case of otitis media. As a rule the otorrhœa from varicella is not as serious as that caused by scarlatina and diphtheria. But a differentiation must be made between the inflammation of the ear that occurs at the beginning of a varicella and that which develops during complications of the skin. The former is usually mild and may heal itself. Those which follow some skin complications are always more serious and recovery is always tardy. The best treatment is that of prevention; in varicella patients there are two dangerous periods for the ear. At the time when there is a buccopharyngeal inflammation care must be taken to keep the oral passages clean; the vesicles should be washed with weak solutions of salicylic acid. During the course of the illness the cleanliness of the skin should be watched. Where many cases are treated the new cases should be separated from those in an ulcerative stage, and sterilised underclothes, etc., should be employed. Varicella, which is such a benign illness, should not through failure in treatment become the source of dangerous conditions.

M. D. EDER.

Surgery.

Lung decortication and thoracoplasty for persistent thoracic sinus (*Annals of Surgery*, June, 1909).—**Charles N. Dowd** presented at a meeting of the New York Surgical Society on March 10, 1909, six patients (children) illustrating the results of this procedure. He gives details of the histories of the patients. One case was that of a boy, who is now aged 17 years, and who had his first operation for empyema in 1897. A few months later a second operation was done in one of the City hospitals and tuberculosis was found in the pleura. The wound healed but opened again, and in October, 1899, Dowd excised a portion of five ribs, the fourth to the eighth, and corresponding portions of the chest-wall. In November, 1900,

a sinus still persisting, the sinus was exposed and the pulmonary pleura incised and stripped back. This lung expanded well when liberated from the pleura, although it had been confined for more than three years. Final healing took place about a year and a half later and he has remained in good health ever since. The circumference of that side of the chest is two inches less than the other and he has about half an inch expansion with his respiration. He is in good health, has no signs of tuberculosis and no spinal curvature. The other cases were somewhat similar. In a recent case, instead of resecting portions of the ribs a cut was made along the anterior axillary border, the wound was retracted, the pulmonary pleura was incised, and the chest-wall and ribs brought together again, careful union being made by chromic gut, with the exception of one rib where silver wire was used. The likelihood of a good chest is better than in the other cases where resection of more ribs have to be made, but the procedure is manifestly only applicable to those cases which show good lung-expansion. In some of the cases efforts were made to expand the lung by using forced expiration aided by Wolf bottles.

J. ALLAN (Edinburgh).

Gunshot wound of the brain with remarkable recovery of function (*Annals of Surgery*, June, 1909).—**W. J. Taylor** showed at the Philadelphia Academy of Surgery a girl, aged 2 years, who was first seen by him on April 1, 1907. On Sunday, March 10, twenty days before, while she was lying in bed her little brother fired a thirty-two calibre revolver within a short distance of her head. The ball entered half an inch to the left of the middle line directly over the glabella, and must have passed through the frontal sinus and directly backwards and upwards, and emerged from the skull on the right side over the parietal protuberance at a point two and a half inches from the middle line and two inches back of the mid-auricular line. The ball was found on the pillow by the side of her head. There was tremendous hæmorrhage and unconsciousness for two hours. There was total palsy of the left side, and on Tuesday, March 12, she had a series of general convulsions which continued at intervals till the Friday. She regained power of the left leg, but on April 1 there was still total palsy of the left hand and arm. There was apparently no alteration in sensation or in eyesight or taste. On April 2, as both the wounds of entrance and exit were suppurating and at the wound of exit there was quite a distinct swelling, she was given ether and the wound of exit explored. There was a hole in the skull about three quarters of an inch in diameter through which was protruding quite a distinct fungoid mass. At the side of this was a piece of bone detached from and standing at right angles to the skull. This was removed and a few jagged fragments of bone cut away. Up to this time she had been extremely restless and unable to sleep, but almost immediately she quieted down and had good and restful nights. Very quickly she regained the power and control over the left arm. The improvement continued and her convalescence was rapid and uninterrupted. On May 1 the wound of exit discharged some pus, but from that day to this she has remained perfectly well. There is no palsy, no evidence of any alteration in her intelligence or power of motion, and there have been no convulsions or other evidence of brain irritation. Taylor reported this case as a remarkable example of the tolerance of the brain to mechanical interference. This bullet must have passed through the frontal sinus, through the temporal bone and through the substance of the parietal lobe to its exit just posterior to the parietal eminence. The soft bones of the

skull of a child of this age could not have presented sufficient resistance to have deflected the bullet in any way. J. ALLAN (Edinburgh).

The treatment of club-foot (*Medicin. Corresp. Blatt des Würt. ärztl. Landesvereins*, March 20, 1909).—**Mendler** regrets that good results are not more frequently obtained, since in the modern methods of treatment there should be few failures. He gives some illustrations of the success that follows the so-called bloodless method, that is, removing nothing of the bony structure. Under deep narcosis the foot is manipulated until it can be brought without difficulty into the required shape. He nearly always accomplishes this with the hands without any screw; this requires a certain amount of physical strength. Tenotomy of the Achilles tendon is the *last* act of the operation; it is a great mistake to do it earlier. He emphatically protests against the idea that this tenotomy can by itself cure any case of club-foot. In many of the less severe forms tenotomy is unnecessary. Congenital cases are put in plaster for about nine months; there is no occasion for any gymnastic after-treatment. Children are not treated till after the first year. M. D. EDER.

Foreign body in the larynx (*La Semana Med.*, May 13, 1909).—**Núñez** relates the history of an infant, aged 13 months, who had a fit of suffocation after taking some broth. On a rapid examination a foreign body could be palpated within the larynx. Tracheotomy was at once performed, and on the following day, when the infant's condition was greatly improved, the foreign body was removed by an instrument inserted through the wound and was received by a finger in the mouth. It was an irregular-shaped piece of bone. M. D. EDER.

The immediate treatment of infantile paralysis of upper limb (*Int. Med. Journ.*, May 20, 1909).—**MacKenzie** recommends immediate and absolute rest. During twelve months he treated eighteen cases in this way. Ten cases were treated within ten days of onset of illness; they were immobilised without massage for from ten to twelve weeks; nine have recovered. Three cases were seen within four weeks of the onset, and in all there is recovery in the reclining position. Five cases have a more than three months' history; in those return of deltoid function was not to be expected. The essential thing is that the treatment should be immediate. In an acute case with one limb affected he would immobilise the other three limbs. M. D. EDER.

Diphtheria in Berlin (*Arch. f. Klin. Chir.*, Bd. 38, 1908, p. 535).—**E. Schultze**.—The diphtheria mortality at the Bethanien Hospital in Berlin between the years 1882-1893 ranged from 43·3 (1891) to 58·4 per cent. (1884), and the mortality of the tracheotomy cases from 63·5 (1891) to 74·3 per cent. (1889). Since the introduction of antitoxin there has been a very marked drop in the mortality, the general mortality being 12·12 and the mortality of the tracheotomy cases 30 per cent. in 1902. The prognosis of tracheotomy cases in children aged one year and under is still bad, being 65·38 per cent., but in the pre-antitoxin period it was 96·1 per cent. The low operation was performed as a rule. In seven cases considerable surgical emphysema developed, and in one case right empyema in which recovery took place after two and a half months. J. D. ROLLESTON.

Abscess of lung due to wire nail in right bronchus (*Arch. of Pediat.*, 1909, p. 201).—**F. Huber** describes a case in a boy, aged 2½ years, who had swallowed a nail eight months previously. The symptoms were paroxysmal cough and dyspnoea, purulent sputum, septic temperature, vomiting, and loss of flesh. An abscess of the right lung was diagnosed, and an exploratory operation was made without success. Subsequently X rays revealed a wire nail in the trachea and right bronchus. A low tracheotomy was performed by H. M. Silver and the nail was removed after a stay of eight months. Recovery was slow. Thirteen months after the operation there were physical signs of fibrosis of the upper and middle lobe with dilated bronchi, and clubbing of the fingers and toes.
J. D. ROLLESTON.

Ovarian cysts in childhood (*Pediatrics*, 1909, p. 144).—**H. W. Cheney**.—Of 126 cases of ovarian tumours in children collected by Howard Kelly 55 were cysts. The youngest case occurred in a child aged 4 months. Cheney's case was a girl, aged 16 years, who had menstruated regularly for two years. The abdominal enlargement, which was associated with few symptoms beyond discomfort and occasional pain, was regarded at first as due to an enlarged spleen, and was subjected to X-ray treatment without result. Subsequently the diagnosis of a tumour of one of the pelvic organs or a sacculated tuberculous peritonitis was made. Laparotomy was performed and a tumour weighing 9½ lb. was removed, which proved to be a papillary cysto-adenoma originating in the left ovary.
J. D. ROLLESTON.

Treatment of tuberculosis of the spine (*Clev. Med. Journ.*, February, 1909).—**Lovett**, in reviewing the treatment of Pott's disease, compares the methods of recumbency and activity, and is of opinion that the latter is far less efficacious than the former. If ambulatory treatment must be used, it is best borne by cases with disease in the cervical and lumbar regions, and least well by those with the dorsal region affected. Plaster jackets are more efficient than braces when ambulatory treatment in the acute stage must be followed, while the reverse is the case in the convalescent stage. Recumbency is necessary in all cases in which there is pain, when abscesses are threatened or present, or when psoas contraction takes place: also in cases of paralysis, and when the general health fails. Psoas abscesses are to be treated by recumbency and traction on the affected limb until it is evident that absorption will not take place. The author's mortality in forty-nine cases operated upon was 25 per cent. in children under the age of five years and 50 per cent. between the ages of five and ten years. Living in the open air both by day and night is essential to stimulate the process of repair. Conservative methods are thus forcibly advocated.
T. R. WHIPHAM.

Gastro-enterostomy for spasm of the pylorus (*La gastro-entérostomie dans les spasmes du pylore*) (*Gaz. des Hôp.*, March, 1909, Nos. 31 and 32).—**Termier** gives here a historical review of this question. He relates a case in an adult where he performed the operation. The article is chiefly concerned with adult conditions. He concludes that one should never perform the operation so long as there is evidence of pyloric permeability, for in this case the new opening hardly functions.

ERNEST JONES (Toronto).

Review of Book.

THE CARE OF CHILDREN, FROM BABYHOOD TO ADOLESCENCE. By BERNARD MYERS, M.D., C.M., with a preface by GEORGE F. STILL, M.D., F.R.C.P. London: Henry Kimpton, 1910. Crown 8vo, pp. xiii + 176. 1s. 6d.; cloth, 2s. 6d.

THIS little book is written for the use of mothers and nurses, but very valuable hints may be found in it with which medical practitioners should be familiar. Dr. G. F. Still, in an interesting and instructive preface, does not praise the book too much when he says: "The volume Dr. Myers has written is full of sound common-sense instruction on just those points upon which mothers and nurses need information. . . . It is full of valuable information on the most practical details of child-life and child culture." The first two chapters deal very thoroughly with the preparations for the coming baby and its care from birth to six months, and the sections on natural and artificial feeding are clearly written and sound in their teaching. The author is greatly opposed to the use of barley-water in the milk mixture for infants, but in his view we cannot entirely agree. Chapter III deals with the care of children from six months to two years, and, although condensed, contains the essential information. Chapter IV deals with the child from two to twelve years, Chapter V with the teeth, Chapter VI with the clothing, Chapter VII with the diet, and Chapters VIII and IX with the physical and mental education of children. All these chapters are very clear in their instructions and contain valuable information. The description of the ideal nurseries in Chapter X is excellent, but it is impossible in the average household for the author's ideals to be attained, as he considers the ideal nurseries should "consist of the night nursery, day nursery, pantry, larder, bath-room, lavatory, and gymnasium." He also states that a good size for the day nursery is 30 feet long, 20 feet wide, and 15 feet high, and that the night nursery should be a little bigger than the day nursery. He, however, admits that such fine rooms can only rarely be obtained. The description of the nursery furniture, of the decorations of the rooms and other details of the nurseries, contains everything that can be desired. Chapter XI deals with the proper management of children, and Chapter XII with travelling at home and abroad. In Chapter XIII there is a description of many illnesses, deformities, and accidents, together with their treatment. The part dealing with accidents is very useful, but that dealing with illnesses and deformities can only be confusing to mothers and nurses, and contains many instructions as to treatment which only ought to be used under medical orders. The short descriptions of the symptoms of certain diseases which are given are quite superfluous and very misleading, for it is quite impossible, and not desirous, for parents and nurses to attempt a diagnosis for themselves. Chapter XIV deals with medicines and their mode of administration, and describes the method of making poultices, the application of fomentations, dry heat and cold, and the use of enemata. We have especially drawn attention to these few points about which we do not agree with the author, as we consider that the volume is the best of its kind that has been written, and because we can thoroughly recommend it as a trustworthy and valuable guide to mothers and nurses upon the care of children from babyhood to adolescence.

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

VOL. VII.

MARCH, 1910.

No. 75.

Original Articles.

AN INVESTIGATION INTO THE OCCURRENCE OF
ADENOIDS IN THREE OF THE LONDON COUNTY
COUNCIL ELEMENTARY SCHOOLS.

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(Continued from page 71.)

THE frequency of aprosexia has been estimated by various authors at from 35 to 75 per cent.—a wide margin. In an analysis of 307 cases ('Treatment,' May, 1901), I found 17 instances (8 males and 9 females) in whom the symptom was marked, or 5·5 per cent. In all of these the adenoid masses were large, the obstruction to nasal respiration severe, and the tonsils were greatly hypertrophied in 9. Crowley ('Pediatrics,' May the 1st, 1897) found aprosexia present in 28 per cent. of his cases, and I am in agreement with his remark that in many children in whom aprosexia is supposed to be present the dulness is more apparent than real, and in reality is due to defective hearing. In this investigation, as well as in the analysis of the 307 cases referred to, I have endeavoured to avoid confounding the spurious aprosexia of defective hearing with what may be called the

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true or pathological aprosexia directly due to the diseased pharyngeal tonsil.

In the 1561 cases upon which this investigation is based I found only 38 cases of true aprosexia, or 2·4 per cent., and the remarkable lowness of this figure when compared with those of other observers, is, at first sight, due to the fact that it refers to cases occurring in an aggregate of normal and adenoid children. If, however, the normal cases be subtracted, making 36 instances of aprosexia in 765 adenoid children, the percentage is still a very low one, being only 4·7 per cent., and this confirms me in the opinion I have long held, that other investigators have confused spurious and true aprosexia.

The 38 cases found are analysed in the next table :

TABLE Q.—*Aprosexia.*

Sex.	Total number of cases.	Normal.	Tonsils and adenoids.	Adenoids only.	Mouth-breathers.		Deaf.	Dis-charge.	Deaf and dis-charge.
					Complete.	Partial.			
Boys .	15	0	7	8	10	0	1	0	0
Girls .	23	2	13	8	7	4	5	0	2
Totals	38	2	20	16	17	4	6	0	2

It will be noted that the girls were in excess of the boys, and as the opposite was the case in the proportion of the sexes in the whole 1561 (862 boys and 699 girls), this excess is even greater than appears from the above table, in fact, there were nearly twice as many aprosexic girls as boys in proportion to the total number of each.

Of the two children with aprosexia that are here shown as "normal" (*i. e.* clear of adenoids and tonsils), one was mentally defective, the other a wretched, ill-clad specimen of under-feeding and bad home surroundings. All the rest had adenoids to a marked degree.

Reference to Tables C and N will show how much the phenomenon of mouth-breathing was in relative excess among the aprosexic.

As regards ear complications in these cases, reference to Tables C and N will show that whereas out of 1561 children 4·02 per cent. had ear complications, the percentage of deafness, otorrhœa, or both was, among the aprosexics, 21·05. If, however, we look at it

from another point of view, it will be noted that, out of a total of 18 boys and 45 girls with ear complications, only 1 boy and 7 girls showed aprosexia. I would here again emphasise the fact that children who were apparently dull from deafness were distinguished from those who exhibited the true defective power of concentrated attention which aprosexia really signifies.

Of other prominent adenoid symptoms shown in these 38 children, the adenoid face was marked in one only. This facies is surprisingly uncommon when one comes to examine a large number of school children for adenoids, although it is more frequently seen in those who are brought to hospital for treatment. This is probably because the great majority of hospital cases are instances of marked adenoids, and many of the children who suffer with hypertrophy of the pharyngeal tonsil do not come under the surgeon's hands. It cannot fail to strike the medical inspector that in many children the presence of adenoids frequently remains unsuspected until revealed by medical examination. Speaking as a hospital surgeon, I have noticed that since the medical inspection of school children has been established upon a firmer and more practical basis, the number of uncomplicated cases of adenoids brought to me at the hospital has increased.

Adenoid speech was present in five cases, and what has just been said as to the adenoid facies may be applied in some measure to adenoid speech as well. Lastly, one child stammered, one had a mentally defective sister, and one was probably a degenerate, being an illegitimate child with a marked propensity for thieving.

The next table relates to the shape of the palate in connection with adenoids.

TABLE R.—*Relation of Palate Shape in Normal and Adenoid Children.*

Condition.	Normal height.			Abnormal height.			Totals.
	Broad.	Medium.	Narrow.	Broad.	Medium.	Narrow.	
Normal* . . .	307	365	55	2	22	24	775
Adenoids . . .	32	70	7	0	10	12	131
Tonsils and adenoids .	98	158	27	2	21	34	340
Totals . . .	437	593	89	4	53	70	1246

* Including those with enlarged tonsils only.

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The percentages of the different palate forms in all the children as compared with those of normal and adenoid children are shown in Table R.

TABLE R¹.

Condition.	Normal height.			Abnormal height.		
	Broad.	Medium.	Narrow.	Broad.	Medium.	Narrow.
Total number .	35·07	47·5	7·5	0·32	4·2	5·6
Normal . .	40·8	48·1	7·09	0·25	2·7	3·09
Adenoids . .	27·3	48·5	7·2	0·42	6·5	9·7

It is well known how recognised a matter it is to associate a narrow, and especially a high narrow palate, with the presence of adenoids, but these percentages show plainly that although there are nearly twice as many cases of high palates of medium breadth and three times as many high palates which are narrow, their numbers are quite small when compared with those that are not abnormally high. It appears, however, very patent that the percentage of children showing a broad palate of normal height is much greater in those who are free from adenoids than in those who are the subjects of these growths. In those whose palates are of medium breadth the numbers of normal and adenoid children practically coincide, as do those in whom the palate is narrow. Viewed broadly, it would appear that the whole question is not one of breadth but one of abnormal height, and, taken in this light, it will be well to briefly review some of the opinions which have been expressed by other observers. I am inclined to think that hitherto too much has been taken for granted in the matter.

Bishop ('Diseases of the Ear, Nose and Throat,' 1898) considers that the conformation of the roof of the mouth results from the necessities of mouth-breathing. Lamb ('Practical Guide to Diseases of the Throat, Nose and Ear,' 1909) looks upon the palate shape in adenoids as due to—(1) Compression of the soft tissues on the soft, growing upper jaw; (2) loss of the expanding influence of nasal respiration; and (3) the action of the depressor muscles of the lower jaw. Waggett ('Diseases of the Nose,' 1907) believes that the tongue, which during respiration through the nose fits against the palate, has an important influence upon the normal moulding of

the arch, and that the abnormal shape in adenoids is due to mouth-breathing preventing this action of the tongue.

Before going further it will be well to ascertain what is to be learned from the relation of palate shape and mouth-breathing as shown in Table S.

TABLE S.—*Relation of Palate Shape to Mouth-Breathing.*

Condition.	Month-breathers.	Normal height.			Abnormal height.			Totals.
		Broad.	Medium.	Narrow.	Broad.	Medium.	Narrow.	
Normal* {	Complete	6	7	5	0	0	2	20
	Partial	2	4	0	1	0	0	7
	Complete	26	45	5	2	10	12	100
	Partial	8	23	1	0	7	8	47
Totals		42	79	11	3	17	22	174

* Including those with enlarged tonsils only.

Reducing this table to one showing the percentages, we have—

TABLE S¹.

Condition.	Normal height.			Abnormal height.		
	Broad.	Medium.	Narrow.	Broad.	Medium.	Narrow.
Normal . . .	29.6	40.7	18.5	3.7	0.0	7.4
Adenoid . . .	25.5	46.2	4.0	1.3	11.7	10.8

This table shows that the percentages so nearly approach one another as to be of little value. Indeed, the narrow palates of normal height are more than thrice as many among normal children as among those with adenoids. There is, however, a preponderance of narrow high palates among the adenoid subjects, but this superiority is not so high as the above-quoted remarks would lead us to expect.

These figures tend to confirm the opinions expressed by Jonathan Wright ('Brooklyn Med. Journ.,' April, 1900), from whose paper I may make the following quotation:

"Some years ago E. Fraenkel ('Inang. Dissert.,' Basel, 1896), by

careful measurements, came to the conclusion that this configuration of the jaw occurs no more frequently in those who have than in those who have not had post-nasal hypertrophy. The paper of Grossheintz ('Arch. f. Laryngologie,' Bd. 8, Heft 3) fully supports this view. Indeed, Lange has stated, and it has been my experience, that cases of a very high, narrow palatal arch are not infrequently seen without a trace of 'adenoids.' According to Grossheintz, the existence of this condition depends upon the type of the skull—whether, in other words, it is dolicho-cephalic or brachio-cephalic. The deductions which he makes from his exhaustive and somewhat exhausting observations are as follows:

"(1) With a high, narrow, alveolar arch (hypsistaphylia) is usually associated a general narrowing of the upper face (leptoprosopia).

"(2) Narrow nasal passages (leptorrhinia) and narrow orbits belong to the skull formation, having high arched palates.

"(3) Hypsistaphylia depends, as a rule, upon the congenital racial characteristics of the skull, and not upon the later extra-uterine influences of nasal stenosis."

It is, further, of importance to quote Wright's opinion on the influence of palatal peculiarities as a cause of adenoids:

"While it seems very evident to me that 'adenoids,' as the cause of narrow jaws, have been a subject in which very erroneous views have prevailed, I am not convinced that the narrow jaw, on the other hand, does not have some ætiological influence upon the occurrence of lymphoid hypertrophy in the vault of the pharynx. We may presume, at least, that 'adenoids' occurring in such subjects are very much more apt to produce symptoms, especially of obstruction, and thus more frequently come under the observation of the physician than do those of the brachio-cephalic type; but even this assumption should not be too absolutely entertained in the face of the extensive measurements and careful observations of Fraenkel and Grossheintz."

Our next tables have to do with the *condition of the teeth*. The three tables must be taken together, as they deal with the comparative frequency of carious teeth in normal and adenoid children, their relation to palate shape and to mouth-breathing.

Thus, 49·4 per cent. of the normal children had good teeth (*i. e.* teeth showing no obvious caries) and 51·4 per cent. had caries affecting from one to ten teeth, whilst of the children with adenoids 40·9 per cent. had good teeth, and 59·0 per cent. had from one to thirteen teeth affected.

TABLE T.—*Relation of Carious Teeth in Normal and Adenoid Children.*

Condition.	Good teeth.	Number of carious teeth.													Total number with carious teeth.	Irregular upper incisors.
		1	2	3	4	5	6	7	8	9	10	11	12	13		
Normal*	376	97	100	65	59	36	23	12	3	3	1	0	0	0	399	16
Adenoids	54	10	17	17	13	9	7	1	1	0	0	2	0	0	77	7
Tonsils and adenoids	139	24	44	33	28	29	18	10	6	2	1	4	1	1	201	7
Totals.	569	131	161	115	100	74	48	23	10	5	2	6	1	1	677	30

* Including those with enlarged tonsils only.

Taking next the relation of carious teeth to mouth-breathing :

TABLE U.—*Relation of Carious Teeth to Mouth-Breathing.*

Month-breathers.	Good teeth.	Number of carious teeth.													Number with carious teeth.
		1	2	3	4	5	6	7	8	9	10	11	12	13	
Complete	62 ¹	8 ²	19 ³	10 ⁴	9	7	7	2	1	1	1	0	0	0	65
Partial	14 ⁵	6 ⁶	6	2	8 ⁷	2	3	5	0	0	0	0	0	1	33
Totals	76	14	25	12	17	9	10	7	1	1	1	0	0	1	98

¹ 13 normal; ² 4 normal; ³ 1 normal; ⁴ 3 normal; ⁵ 4 normal; ⁶ 1 normal; ⁷ 2 normal.

Out of a total of 174 month-breathers there were, therefore, 43·6 per cent. with good and 56·3 per cent. with carious teeth. All but 28 of these children had adenoids. Of these 28 (who were mouth-breathers from other causes), 60·7 per cent. had good teeth and 39·6 per cent. had from one to four carious teeth. If we subtract the mouth-breathers we find that of the normal cases 48·0 per cent. had good teeth and 51·9 per cent. had from one to ten carious teeth, whilst of the adenoid subjects 41·2 per cent. had good teeth and 58·7 per cent. had from one to thirteen carious teeth. These figures, therefore, show that out of the 1246 children examined, the presence of adenoids had more to do with the carious condition of the teeth than did mouth-breathing. This is probably accounted for by an increased amount of oral sepsis in adenoid children, the adenoids

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harbouring micro-organisms. As out of the 471 adenoid children 72·1 per cent. had enlarged tonsils as well* (Sprague, *loc. cit.*, found that 95 per cent. of his cases had large tonsils), this condition of oral sepsis would be more marked.

The next table gives the relation of carious teeth to palate shape.

TABLE V.—*Relation of Carious Teeth to Palate Shape.*

Condition.	Palate shape.		Good teeth.	Number of carious teeth.													Total number with carious teeth.
				1	2	3	4	5	6	7	8	9	10	11	12	13	
Normal*	Normal height	Broad	160	28	33	17	27	17	15	6	1	2	0	0	0	0	146
		Medium	160	58	59	33	30	17	5	2	1	0	1	0	0	0	206
		Narrow	34	4	4	7	1	1	1	1	1	0	0	0	0	0	21
	Abnormal height	Broad	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
		Medium	12	5	2	2	0	0	0	1	0	0	0	0	0	0	10
		Narrow	9	2	2	6	1	1	2	1	0	0	0	0	0	0	15
Adenoid	Normal height	Broad	56	11	20	14	12	10	4	2	3	0	0	0	1	0	77
		Medium	92	14	19	25	24	20	15	7	12	1	1	4	0	1	133
		Narrow	15	0	7	5	1	3	1	0	0	1	0	1	0	0	19
	Abnormal height	Broad	1	2	0	1	0	0	0	0	0	0	0	0	0	0	3
		Medium	12	1	11	0	0	0	2	1	1	0	0	0	0	0	16
		Narrow	17	6	4	5	4	5	3	1	1	0	0	1	0	0	30
Totals			569	131	161	115	100	74	48	23	20	5	2	6	1	1	677

* Including those with enlarged tonsils only.

The figures are reduced to percentages in Table V¹.

TABLE V¹.

Normal children.							Adenoid children.					
Palate of normal height.				Palate of abnormal height.			Palate of normal height.			Palate of abnormal height.		
Con- dition of teeth.	Broad.	Medium.	Narrow.	Broad.	Medium.	Narrow.	Broad.	Medium.	Narrow.	Broad.	Medium.	Narrow.
Good	52·2	43·7	61·8	50·0	54·5	37·5	42·1	40·8	44·0	25·0	42·8	36·1
Carious	47·2	56·5	38·0	50·0	45·4	62·5	57·8	59·5	55·8	75·0	57·1	63·8

* In Investigation A the percentage of adenoid children with enlarged tonsils was 76·7.

The two tables, except that they show a higher percentage of carious teeth in narrow palates, both those of normal and abnormal heights, in which there is usually some crowding of the teeth, only tend to confirm what has already been stated, that carious teeth are more likely to occur in connection with the presence of adenoids.

Lastly, there remains the question of irregularity of the upper incisors. This condition has long been associated with the presence of adenoids.

There were 30 cases in the 1246 examined presenting this condition of the upper incisors, 14 being boys and 16 girls. Of these, 14, or 46·6 per cent., had adenoids, and 9, or 30 per cent., were mouth-breathers. Fourteen, or 46·6 per cent., had good teeth, whilst in 16, or 53·3 per cent., there were from 1 to 11 carious teeth, of whom 8, or 50 per cent., had adenoids. As regards palate shape, only 2, or 6·6 per cent., had the broad palates of normal height which go with the brachio-cephalic skull, whilst 13, or 43·3 per cent., had medium palates, and 15, or 50 per cent., had narrow ones. Ten, or 33·3 per cent., had abnormally high palates, 7 of which (70 per cent.) were narrow.

From this it is probable that irregularity of the upper incisors is more a question of palate shape than of adenoids, and its presence in connection therewith is more accidental than resultant.

Ear complications.—A glance at Table N will show that 51 out of the 1246 children had ear complications. These were as follows :

TABLE W.—*Ear Complications.*

Condition.	Deafness.		Discharge.		Earache.	Totals.
	Both sides.	One side.	Both sides.	One side.		
Adenoids	11	1	5	5	1	23
Tonsils and adenoids	9	3	12	3	1	28
Totals	20	4	17	8	2	51

I do not think much requires to be said regarding them, for the figures practically speak for themselves. They mean that about 4·0 per cent. of these children had either deafness or discharge, or both, on one or both sides, except two, who suffered from intermittent ear pain, which probably meant potential ear affection. What,

however, is of the greatest importance, is that *every single one of these children had adenoids*, and in no one normal child was there any sign or history of ear complication. The number 51, therefore, takes on a different and more significant aspect; it means that out of 471 cases of adenoids, 51, or 10·8 per cent., suffered from ear complications. This percentage is a very important fact, and of sufficient gravity of itself to justify the existence of medical inspection, always provided that such inspection leads to its legitimate goal, viz. the ensuring of adequate treatment. It also emphasises the fact that the large majority of ear affections in school children owe their existence to adenoids.

I would add that the 12 children with ear complications shown in Table C (Investigation A) were also all the subjects of adenoids. The percentages here (3·8 per cent. of the total, 6·1 per cent. of the

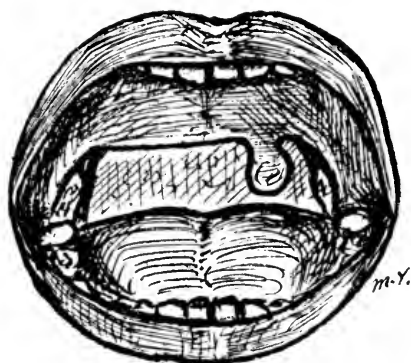


Fig. 1.

adenoid children) are less, because the children examined were, generally speaking, younger.

Looking through the notes of these 1246 children, I find that 7 (5 boys and 2 girls), or 0·5 per cent., *stuttered*. Of these, 3 boys and 1 girl had adenoids. Two boys and 4 girls had the *uvula bifid*, but there were no cases of cleft palate. One boy, aged 9 years, had a small papilloma at the left base of the uvula, and one boy, aged 10 years, showed symmetrical fenestration of the anterior faucial pillars. There was one boy, aged 4 years, with large tonsils and adenoids, who was a *hæmophylic*.

Another boy, aged 11 years, presented the curious condition shown in the accompanying figure, made from a sketch taken at the time. The uvula appeared to spring from the left of the soft palate, close to the tonsil. There was no scarring and no history of

injury, operation or disease, and he was free from adenoids. I have never met with any similar deformity.

A second boy, aged 6 years, free from enlarged tonsils or adenoids, showed symmetrical pulsating vessels in the posterior pharyngeal wall, probably enlarged ascending pharyngeals. They appeared to be just beneath the mucous membrane, and might have seriously complicated any operation on this region.

From the results obtained by this investigation, I think the following *conclusions* may be legitimately drawn:

(1) That on the average about 37 per cent. of the children in elementary schools have adenoids, and that between 72 and 76 per cent. of these have enlarged tonsils as well.

(2) That on the average 31·2 per cent. of adenoid cases are mouth-breathers, complete or partial, and that hypertrophy of the faucial tonsils may give rise to mouth-breathing in the absence of adenoids.

(3) That sex appears to have no influence upon the incidence of adenoids.

(4) That adenoids are more common about the age of eight years, and are next most frequent at about twelve years.

(5) That true aprosopia is often confused with apparent dulness due to defective hearing, and that true aprosopia only occurs in about 4·7 per cent. of adenoid cases, is more frequent in girls, and, when present, is associated with a marked degree of adenoids.

(6) That the so-called adenoid facies is uncommon, except in association with a marked degree of adenoids.

(7) That the association of an abnormally high palate with adenoids is rather due to peculiarities of cranial formation than to extra-uterine influences of nasal stenosis, and that, if there is any relation between a high narrow palate and adenoids, it is possible that the palate shape is rather a cause of adenoids than *vice versa*.

(8) That the presence of adenoids has more to do with the presence of carious teeth than with mouth-breathing and palate shape, and that this is probably due to the increased tendency to oral sepsis in adenoid children.

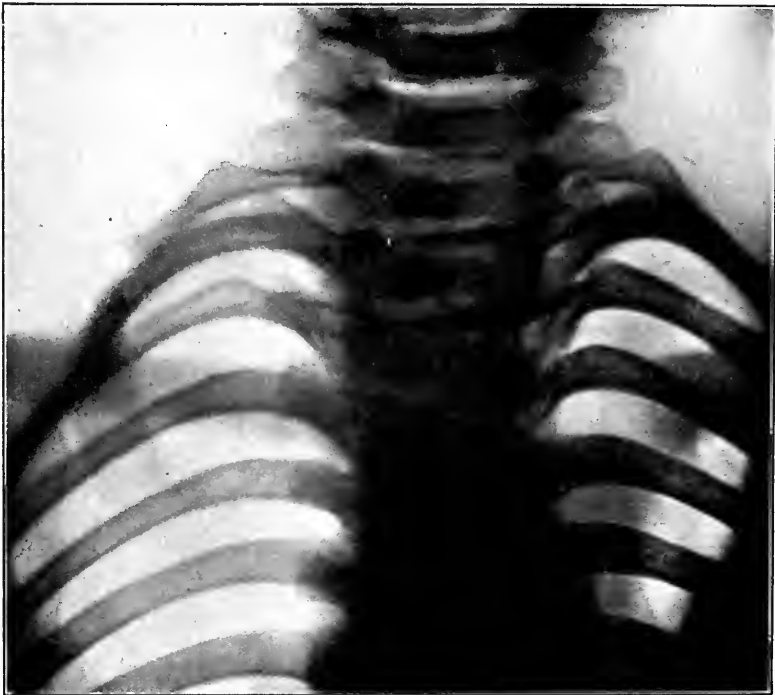
(9) That irregularity of the upper incisors is less a result of adenoids than of palate shape.

(10) That the percentage of ear complications in adenoid children is about 10·8, and that adenoids are probably by far the most important factor in the aetiology of ear affections in childhood.

NOTE ON A CASE OF BILATERAL CERVICAL RIB IN
A CHILD.

BY SEYMOUR BARLING, M.S., F.R.C.S.,
Surgeon to Out-patients, Children's Hospital, Birmingham.

THE patient, a boy, aged 7 years, presented himself at the Birmingham Children's Hospital for a tumour which appeared above the left clavicle. How long it had been present was not known, as



it was discovered by the school medical officer in his routine examination.

On inspection the tumour was obvious, and on palpation the outline of the bone could be felt posteriorly to run back to the spinal column. Anteriorly the end of the rib dipped down sharply towards the first normal rib, the prominence being formed by the sharp angular bend.

On the right side an undue fulness could be felt, and the outline of a rib indistinctly palpated.

No pressure symptoms on vessels or nerves were present on either side.

Although a large number of cases of cervical rib have now been recorded, they usually present themselves at a much later date for pressure symptoms on the brachial plexus or the subclavian artery, the commonest age of onset of symptoms being between twenty-five and thirty-five years of age, but varying from sixteen to sixty, these being the oldest and youngest of which I can find record.

Looking to the entire absence of symptoms in this case surgical treatment at present appears to be unnecessary ; but if, as is usual in these cases, growth is occurring from an epiphysis at the apex of the rib, it is likely to go on for some years to come, producing not only increase in length, but also, as is frequently noticed, a bulbous thickening of the extremity. This enlargement is likely to lead to pressure symptoms in the future which will call for operative treatment.

SOME THOUGHTS ON THE CONTROL OF ZYMOTIC ENTERITIS.

By JOHN ALLAN, M.D., D.P.H.

WITH the return of each summer there occurs an outbreak of epidemic diarrhœa, which in some years is accompanied by a very high death-rate. The disease constitutes an important factor in infantile mortality, and at the particular season referred to it is the factor which causes the death-rate of young children to be high in comparison with the death-rate of adults in the third quarter of the year. At the end of autumn, when the epidemic has spent itself, one is inclined to ask if the disease is being satisfactorily dealt with. The answer to this must be in the negative, and in support of this assertion the following figures may be quoted. Newsholme (1)* has shown that a stationary infantile mortality during the last fifty years has been associated with a very marked decline in the general death-rate of the community. Broadly speaking, this is to be attributed to an increase in the deaths from diarrhœal diseases ; and Newsholme, by statistical evidence, demonstrates that the mortality rate from diarrhœal diseases, both in urban and rural counties, was higher during the years 1898-1902 than during the years 1873-1877. Newman (2), by contrasting the death-rates of infancy in the years 1845-1849 with the rates for the

* The references will be at the end of this paper in the April number of the JOURNAL.

years 1899–1903, proves that epidemic diarrhœa is responsible for a larger proportion of deaths of infants under one year of age during this latter period (1899–1903). He writes: “Diarrhœa, which formerly caused the death of 10 per cent. of dead infants, has increased in half a century to 15 per cent. . . .”

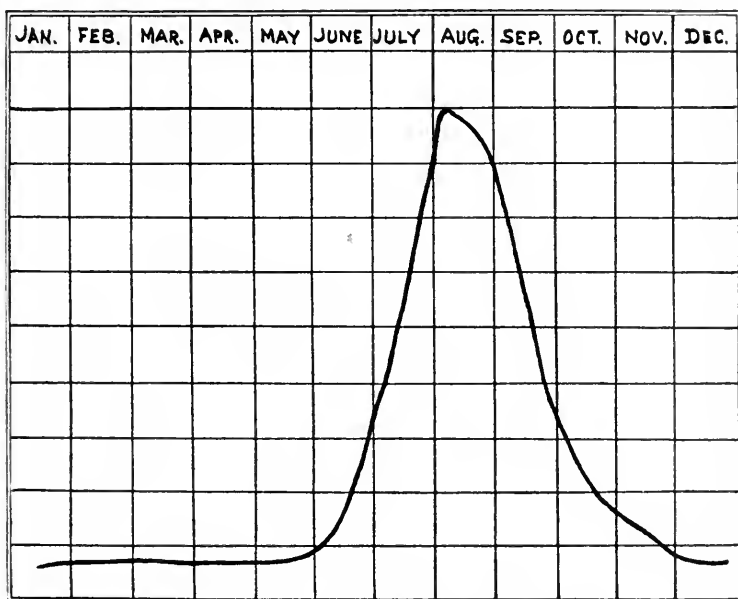
Almost every year some new drug is brought forward as a specific for this disease, and as is usual in the case of any new remedy, its value and effectiveness are without equal; or some new method is introduced to counteract the dire effects of the disease. Every credit is due to those gentlemen who endeavour to perfect therapeutic means for combating the disease, but it is not very creditable to the community as a whole that such should be necessary. Zymotic enteritis is to a very large extent a preventible disease, and therefore the aim of every true-minded citizen should be expressed in the pithy sentence, “Prevention is better than cure.”

To understand how best to control epidemic diarrhœa, it is essential to consider some of the factors that influence the prevalence of the disease.

In the first place epidemic diarrhœa is a seasonal disease, a fact that is so well established that it is hardly necessary to mention it. It is essentially a disease of the warm season, and as a rule the largest number of cases occur during July and August. The mortality rate is graphically represented in the accompanying diagram. One notes that the line indicating the deaths from diarrhœa remains practically stationary during winter and spring. At or about the beginning of June the line begins to rise, it reaches its acme at the end of July or beginning of August, and then falls, abruptly at first, then more slowly, and it is not until the very end of November that the point of normal mortality is reached. The prevalence of the disease, as shown by the number of children attacked, might be represented by an almost similar curve. This is a general statement, and it must be remembered that the influence of one or more factors may tend to modify the curve.

The relationship between epidemic diarrhœa and temperature was first fully worked out by Ballard (3), and his conclusions regarding such have become classical. His main contentions were that the summer rise of diarrhœal mortality did not commence until the mean temperature of the soil as recorded by the four-foot earth thermometer attained a temperature of 56·4° F., no matter what temperature may have been reached by the atmosphere or in the earth at a depth of one foot; and that the decline of diarrhœal mortality coincided more or less precisely with the decline of the

temperature at a depth of four feet, the process of fall being more slow at this depth than in the other two cases mentioned above. These facts were accepted for a number of years, until in 1902 Dr. Nash disputed their infallibility. At a meeting of the Epidemiological Society, held in January, 1903, Nash (4) again questioned the infallibility of Ballard's contentions, and he was supported by other gentlemen who testified to the fallaciousness of Ballard's critical temperature of 56.4°F. at a depth of four feet. It sometimes happens that the increase of zymotic enteritis does occur when the foot-foot thermometer registers about 56°F. , but this is certainly not always the case. Anomalous cases are from time to time noted



in the annual reports of medical officers of health. It is also common experience that an increase in numbers of diarrhœa cases does not immediately follow a high atmospheric temperature. This increase does not as a rule show itself for a week or ten days, even though the temperature of the air has in the interval fallen.

saw this phenomenon illustrated on several occasions during the summers of 1906, 1907, and 1908.

Rainfall also plays some part, and it is found that epidemic diarrhoea is more prevalent in dry than in wet seasons. Take the year 1907, when the summer was a cool and wet one. There was a very marked reduction in the mortality from diarrhoea, a fact that was commented on by many health officers in their annual

reports for the year 1907. In 'The Hospital' of November the 30th, 1907, the effect of the cold summer on the death-rate is made the subject of a short paper. The writer of the article quotes the following figures from the report of the Registrar-General for the seventy-six great towns :

Deaths of Children under One Year of Age.

Week	30	31	32	33	34	35	36	37	38	39
Mean number of deaths under one year last five years	1356	1610	1884	2070	2010	1849	1953	1866	1724	1496
Ditto, 1907	761	755	785	840	887	872	932	961	1142	1354

It is thus evident that the cold, wet season was responsible for an enormous reduction in infantile mortality. It represents a saving of between eight and nine thousand lives in the seventy-six great towns alone, chiefly from zymotic diarrhœa. Not only is the mortality much higher in hot, dry seasons, but the attack rate is also higher. This statement will be endorsed by all who are engaged more especially in pediatric work. I was in different districts in the summers of 1906 and 1907, so that I cannot give figures of my own which are comparable, but it is nevertheless of interest to note that while in the summer of 1906 I saw over 200 cases of summer diarrhœa, in the following summer I saw only about a dozen cases. In the month of August, 1908, I saw about fifty cases. Heat probably plays its part as an ætiological factor in diarrhœa in virtue of its favouring the growth and development of organisms. Griffith (5), however, holds that heat has some share in the causation of diarrhœa quite apart from growth of bacteria, and believes that it acts partly by its depressing action on the nervous system, and particularly the vaso-motor system of the child, though partly, also, by interfering with digestion, so that bacteria more easily multiply in the intestine.

Dr. Ballard's main conclusions have been quoted above, and on these conclusions he formulated a "provisional hypothesis" which held :

(a) That the essential cause of diarrhœa resides ordinarily in the superficial layers of the earth, where it is intimately associated with the life-processes of some micro-organisms not yet isolated.

(b) That the vital manifestations of such organisms are dependent, amongst other things, perhaps principally upon conditions of season, and on the presence of dead organic matter, which is its pabulum.

(c) That on occasion, such micro-organism is capable of getting

abroad from its primary habitat—the earth—and, having become air-borne, obtains opportunity for fastening on non-living organic material (especially food, whether inside or outside the body), and of using such organic material both as nidus and pabulum in developing various phases in its life-history.

(d) That from food, and from organic matter in certain soils, it can manufacture a virulent chemical poison, which is the material cause of epidemic diarrhœa.

Dr. Nash (6) questions the correctness of this hypothesis, and maintains that there is no one organism the cause of diarrhœa. This branch of the subject has recently received careful investigation, but up to the present no definite conclusions have been arrived at as to the presence of a specific micro-organism. Dr. H. de R. Morgan (7), when Ernest Hart Memorial Scholar, undertook, during the years 1905 and 1906, an investigation upon the bacteriology of the summer diarrhœa of infants. As a result of his entire investigation he concluded that a bacillus, designated “Morgan’s bacillus No. 1,” was entitled, in the absence of further knowledge, to be regarded as a factor—perhaps the most important factor—in the causation of the disease. The bacteriology was most minutely investigated by him, and his reports appeared in the ‘British Medical Journal.’ He also gives references of the more important investigations which had up to this time been undertaken with a view to the elucidation of the subject.*

Dr. R. Stenhouse Williams (8), in association with other four gentlemen, has more recently investigated the matter. Cases of epidemic diarrhœa were admitted to the Liverpool City Hospital at Fazakerley, and the bacteriology of the alvine discharges, etc., was fully studied. A specific bacillus, called the “bacillus F,” was isolated from one case, and the following conclusions were formulated by the gentlemen in question: “The bacillus F was obtained from a case of epidemic diarrhœa. By its cultural reactions it is readily differentiated from the *Bacillus typhosus*. The absence of indol formation separates it from Morgan’s No. 1 bacillus. The presence of well-marked mobility is sufficient to distinguish it from Morgan’s bacilli Nos. 3 and 4, and from the dysentery bacilli. A reference to the agglutination reactions shows that there is a relationship between this organism and the *Bacillus typhosus* and the paratyphoid bacillus B. The bacillus F is able to produce diarrhœa in animals, and can be recovered from their stools. We believe, therefore,

* Morgan and Ledingham have more recently made some interesting investigations in connection with “Morgan’s bacillus” (‘Proc. Roy. Soc. Med.’ 1909).

that it may be an agent in the production of epidemic diarrhœa." They are continuing their researches, and have promised to publish their results as soon as possible. In this connection, some recent work by Metchnikoff (9) may not be without interest. According to this authority, animals suckled at the breast develop a diarrhœa, often fatal, when made to ingest a small quantity of the fæces from infants suffering from gastro-enteritis. His experiments were made with rabbits and monkeys, and they clearly demonstrated the infective nature of the disease. His next step was to discover the infective agent. Rabbits and monkeys were fed with pure cultures of *Bacillus proteus* isolated from the fæces of infants suffering from the disease, and also from one of the monkeys in the previous experiments. All the animals proved sensitive to the infection, but, instead of developing the usual diarrhœa, they showed symptoms characteristic of dry cholera, which, however, proved fatal. The bacillus was recovered again from intestinal contents, and sometimes from the blood in the heart. The author concludes from these experiments that the *Bacillus proteus* is a causal agent of infantile diarrhœa. He then proceeds to elaborate precautions to prevent the spread of the disease.

From the above remarks it is evident that the bacteriology is still unsettled, but there is reasonable ground for supposing that the disease is probably infectious, and is due to an organism or organisms which are probably passed in the alvine discharge.

Age is an important factor in ætiology. The disease is most prevalent in infants and young children, and the mortality rate even more strikingly illustrates this point. The following figures from a report of Sir Shirley Murphy's (10) will demonstrate this fact:

Age Distribution of Deaths from Epidemic Diarrhœa in London in 1904.

Under 1 year.	1-5 years.	5-20 years.	20-40 years.	40-60 years.	60-80 years.	80 years and over.	All ages.
2347	457	5	2	10	29	6	2856

It is thus shown that over 82 per cent. of the deaths attributed to epidemic diarrhœa occur in infants under one year of age, while an additional 16 per cent. occur among children under five years of age, thus leaving only a 2 per cent. mortality rate for persons over five years of age. Apart altogether from the possible feebler resisting powers of younger infants, it is probable that the dietary, which in this age-group consists mainly of milk, may have something to do with the greater prevalence and higher death-rate of the disease.

The feeding of the infant must also be considered. Infants who are fed entirely on the breast are much less liable to be attacked by epidemic diarrhœa than are those who are artificially fed. Some authorities at one time believed that breast-fed babies were immune, but this has been found not to be the case. Babies who are partly breast-fed, partly bottle-fed, have a higher attack rate than those who are suckled at the breast only, but a lower attack rate than those who are reared entirely by hand. Dr. G. F. Still (11) has stated that investigations at the Children's Hospital, Great Ormond Street, London, showed that 96 per cent. of the infants who died of infantile diarrhœa were hand-fed. It is also significant that the incidence of the disease is higher among babies between the ages of three and six months than among those between the ages of one and three months, most probably because the babies may have been nursed at the breast for the first three months of life. Still emphasises the danger of condensed milk as a predisposing cause of diarrhœa. He points out that 12 per cent. of infants of the hospital class were fed on condensed milk, but amongst the fatal cases of diarrhœa the proportion was 25·8 per cent. This question has been investigated by several medical officers of health, and the following conclusions of Dr. Newsholme's (12), based on the feeding of 2045 babies of the working classes at Brighton, may be quoted:

(1) *Breast-fed babies* under one year of age have only one tenth, and breast-fed babies under six months have only one ninth part of the share of deaths from diarrhœa which would fall to their share were the deaths from diarrhœa evenly distributed among all the babies.

(2) *Babies fed on cow's milk*: These babies at all ages under one had four times, and at ages under six months had five and a quarter times as many deaths from diarrhœa as they ought to have had on the same supposition.

(3) *Babies fed on condensed milk*: These babies at all ages under one had seven times, and at ages under six months had eight times as many deaths from diarrhœa as they ought to have had on the same supposition.

He says: "It may be inferred, further, from the above facts, that, judging by our local experience, it is twice as dangerous to feed babies on condensed milk as on fresh cow's milk, that it is forty times as dangerous to feed a baby on cow's milk, and seventy times as dangerous to feed a baby on condensed milk as on mother's milk."

Dr. William Hogarth (13), Medical Officer of Health for Derby, in investigating the feeding of between eight and nine thousand

infants under one year of age, obtained somewhat similar results. He found that the infantile mortality of breast-fed children was 69·8, that of hand-fed children 197·5, and that of children reared partly naturally, partly by hand, 98·7, and he further showed that the death-rate per 1000 among these infants from diarrhœa and epidemic enteritis was 8·6 in those breast-fed, 21·6 in those partly breast-fed, partly hand-fed, and 51·7 in those who were hand-fed. These figures require no comment. Dr. Hogarth also proved that the use of sweetened condensed milk, patent foods, etc., is accompanied by a higher mortality than is met with when the infants are fed on diluted cow's milk.

The evil is much increased when these artificially fed babies are farmed out, such as frequently occurs in the case of illegitimate children or when the mother is a factory worker. To prove that breast feeding influences the infantile mortality-rate, one has only to point out that when mothers are forced to suckle their infants, the death-rate of children under one year of age is reduced. The following quotation and figures from an article on "Infantile Mortality and Factory Labour," by Mrs. H. J. Tennant (14), will demonstrate this fact.

"During the Lancashire cotton famine, while privation increased the actual death-rate, the infant death-rate was greatly lessened owing to mothers being compelled to suckle their infants. During the siege of Paris, also, while the general mortality was doubled, the infantile mortality fell 40 per cent. from similar causes."

Death-rate of Infants under one Year of Age per 1000 Births in Lancashire, and in the whole of England and Wales, 1859-68.

	Year.	Lancashire.	England and Wales.
	1859 . . .	176 . . .	153
	1860 . . .	169 . . .	148
	1861 . . .	184 . . .	153
Cotton famine years {	1862 . . .	168 . . .	142
	1863 . . .	171 . . .	149
	1864 . . .	174 . . .	153
	1865 . . .	189 . . .	160
	1866 . . .	200 . . .	160
	1867 . . .	185 . . .	153
	1868 . . .	187 . . .	155

Divine (15) quotes Holt as finding only 3 per cent. of breast-fed infants amongst nearly 2000 cases of fatal diarrhœa. Altogether

the proof in favour of breast feeding as a preventive measure is undoubted.

Of recent years the question of flies being the agents in carrying infection has received much attention, and there is considerable evidence in favour of this hypothesis. In this matter Dr. Nash, Medical Officer of Health for the County of Norfolk, is one of the pioneers. He has during the last eight or nine years, in his annual reports and in papers in various medical periodicals, urged the importance of this factor, and in a recent able and instructive paper (16) he reviews at considerable length the problem of flies as carriers of infection. Ballard's axioms have been quoted above, and it was pointed out that they are generally true, but Nash has shown that though the four foot thermometer at 56° F. and the advent of diarrhoea are frequently coincident they are not necessarily so. Writing in 1904, he (17) states: "My own opinion is that the usual seasonal circumstances during July, August, and the first half of September are in favour of contamination of food (especially milk), firstly, and chiefly, by flies, and secondly by dust. The warm weather favours the rapid multiplication of deleterious germs deposited by flies and dust. I am quite convinced from continued observations that the common house-fly is the principal agent in carrying diarrhoea-causing bacteria to food. I have always found that the districts which have most diarrhoea are those which are most infested with flies, particularly if in the neighbourhood of refuse heaps, manure pits, stables, midden-privies and similar collections of organic refuse, which serve as breeding-places for flies as well as for the noxious germs which they carry thence to the food-supplies in adjoining houses and shops. When once a case of diarrhoea occurs during the fly season (particularly in poor neighbourhoods, where houses closely adjoin, where the hard-working mother of a family has so much to do that she does not always immediately remove soiled napkins, etc., but leaves them about exposed), it is easy to see how flies can readily spread infection to adjoining houses."

He (18) has recently conducted some simple experiments to show to what extent milk was polluted by flies, and I cannot do better than describe them in his own words. "Experiment (1): On a warm day in August, 1907, two ordinarily clean saucers were three parts filled from the ordinary morning supply. One saucer was covered over with a clean plate, the other left uncovered. Both were placed on a table in the kitchen where there were some flies; so that both were under identical conditions as to temperature, etc.

"After five hours two flies were noticed in the uncovered dish. Bacteriological examinations on exactly similar lines were then instituted as to the bacterial conditions of the covered and uncovered milks. . . . Briefly, the experiment showed that there were more than twice as many bacteria in the milk which had been polluted by the flies as in the other which had been kept covered and protected from flies. On estimating the number of bacteria numerically, this meant that in every cubic centimetre of the fly-polluted milk there were nearly five millions extra bacteria as compared with the protected milk.

"The two milks were kept for a further three days, both now kept covered to prevent any further contamination. After a further twenty-four hours at the temperature of the room, the milk which had been previously exposed for five hours to the fly-pollution had a faint, rotten, or putrefactive odour, which two days later was very offensive. The other milk which had all along been protected from flies was clotted, and had the ordinary, not unpleasant, smell of sour milk ; but there was no offensive odour whatever."

A few weeks later a second experiment on similar lines was conducted with almost identical results. Commenting on the results, Nash writes : "The importance of covering over milk is amply demonstrated by the experiments I have detailed. Every fly which settles on the margin of, or falls into milk, adds its evil contribution in the shape of bacteria. It can therefore be readily understood that the greater the number of flies about the greater the risk of serious pollution. Although many varieties of these bacteria might be swallowed by the *thousand* with impunity, it does not follow that the same impunity results if they are swallowed by the *million*. The experiments are chiefly indication experiments, pointing out the gross effects of even only two or three flies drowned in milk. It is not difficult to understand from these experiments how in a fly-ridden district diarrhoeal diseases may be in excess unless care is taken to see that food supplies (especially milk) are protected from the attention of flies."

The theory that flies carry infection seems to me to be the most feasible one to offer in explaining the occurrence of zymotic enteritis in breast-fed babies. Nash is of opinion that want of cleanliness on the part of the mother, the use of dummy teats, and the fact that flies enter the mouths of infants who sleep with their mouths open, or partly open, will account for the fact that epidemic diarrhoea occurs in babies of this class. This last factor is well illustrated in a paper by Dr. Glover (19), of Liverpool, who himself

observed flies entering the mouth of his own child while it lay asleep in the garden. The infant subsequently developed zymotic enteritis. The mixture of saliva and milk within the mouths of infants would seem to have a peculiar attraction for flies. Dr. Glover's theory regarding the female fly is that whilst walking over filth accumulations, laying eggs, and during the act of oviposition, multitudes of micro-organisms, including the unknown one which causes summer diarrhœa in infants, adhere to the moist sucker-like terminations of the hairs on the pulvilli of the fly's legs. Of course any house-fly, male or female, in its travels may pick up the organism, as both sexes haunt masses of decaying vegetable and organic matter, but it is the female that acts as the chief carrier.

Careful scientific investigations have been undertaken at several places. Dr. Hamer (20), in London, has carried out some experimental work, and in his report issued about two years ago he gives some interesting conclusions. Among the more important may be mentioned the following: That accumulations of horse-dung constitute the most productive of all factors in assisting the propagation of fly life, but flies may breed in other accumulations of decomposing matter, though less actively. The "striking distance" of the fly is considerable, and houses two hundred yards or even more from such centres may be infested with flies. Dirty houses, warmth, open windows, etc., are associated as a rule with greater numbers of flies. Dr. Hamer appears to be somewhat sceptical as to flies being active agents in the spread of epidemic diarrhœa. He points out that the diarrhœal mortality curve begins to fall before there is a diminution in the number of flies, and he questions the truth of Dr. Niven's (21) suggestion that this anomalous condition may be due to exhaustion of material.

Hamer believes that the increase in flies and diarrhœa may be due simply to a coincidence.

Mr. Newstead (22), of Liverpool University, has also investigated the fly question, and has recorded many important conclusions relating to the life-cycle of the fly, particularly with regard to its breeding places.

So much importance has come to be attached to this question that Mr. John Burns, President of the Local Government Board, in 1908 authorised an investigation into the possible carriage of infection by flies. Two preliminary reports (23) have been issued in 1909. Some important points are noted in these reports, but, as Dr. Newsholme mentions in the preface to the opening report, "The entire investigation must necessarily extend more or less

intermittently over several years. The subject is, however, one of importance, both in relation to domestic comfort and to the prevention of disease, and is therefore deserving of protracted and systematic inquiry."

In the first report, perhaps the most interesting fact brought out by Mr. Jepson is that under favourable conditions as to temperature, etc., flies may live during the winter months, that they have actually been observed *in coitû* and that they may propagate their species during this period. It is suggested that by attacking any such isolated colonies the number of flies might be considerably reduced.

In the second report further investigations are considered, and at the end abstracts from literature and bibliography germane to the question of flies as carriers of infection are given. Space forbids my quoting from these extracts, and those interested in the subject can obtain a copy of the report, which costs but threepence. I think I have quoted sufficient evidence to prove that the fly plays an important rôle in epidemic enteritis. My own experience coincides with that of those who have had greater opportunities of study and research, and I may mention the fact that in the summer of 1907, when I saw so few cases, the two most severe ones occurred in infants who were housed in a loft over a stable, where the risk of fly-infection was presumably at a maximum.

There has recently been issued a pamphlet by Dr. Ralph Vincent (24) on 'The Ætiology of Zymotic Enteritis,' in which he propounds a distinctly new theory as to its causation. He makes no serious attempt to controvert many of the factors which have been mentioned above, but he argues that the cause that determines the prevalence of epidemic diarrhœa is the depriving of infants of their natural safeguards against attack. He maintains that for the incidence of zymotic enteritis, certain general conditions must obtain :

(1) The milk must be boiled (pasteurised or sterilised), or so treated by heat, or by preservatives, or by some other means, that the lactic organisms are either destroyed or their action inhibited.

(2) The milk must then be subjected to conditions which allow of a development and culture of putrefactive organisms.

He then proceeds to show how, in his opinion, the various modifications to which milk may be subjected are liable to render infants peculiarly susceptible to the disease. Griffith (5) has pointed out that all bacteria in milk are not necessarily harmful to infants; bacteria of the lactic acid-producing group exert an inhibitory influence on some of the bacteria particularly dangerous to infants.

Two Continental workers, Rosenthal and Charazain-Wetzel (25), have recently been carrying out experimental work with lactic bacilli and pathogenic organisms, and they maintain that *in vitro* the former group of organisms quickly sterilises cultures of *Staphylococcus aureus* and *enterococcus* by the production of lactic acid, and that curdled or soured milk is uncontaminable by these organisms or by members of the typhoid group.

In arguing in favour of his hypothesis Dr. Vincent makes out quite a plausible case, but his theory does not seem to me to explain why breast-fed babies may be attacked. He says: "At a time that the disease is sweeping through a town, destroying some hundreds of infants per thousand in the course of a month or two, there are babies living in the most insanitary conditions who are immune. They are the breast-fed babies." I hardly think he can mean us to infer that all breast-fed babies are immune, for this is certainly not the case. There can be no doubt that infants suckled at the breast are not so liable to be attacked by the disease, nor are they so likely to succumb if attacked, but it is an incontrovertible fact that these babies may be, and are, attacked by the disease, which, in some cases, proves fatal. It is also true that babies fed by hand on pure raw milk, where the most stringent precautions have been taken to prevent contamination, may fall victims to the disease.

Dr. Vincent also maintains that epidemic diarrhœa is not an infectious disease. He writes: "It is essential to the comprehension of the disease that the common conception that it belongs to the group of common specific infectious diseases should be abandoned. Zymotic enteritis is in no sense of the word an infectious disease, and it cannot be conveyed by contagion." I doubt if this assertion will be universally accepted. Perhaps it is a little difficult to prove that the disease is infectious. I have known of two or more cases to occur in a house, there being a short interval between each case. Cases may also develop in other houses in the same street or in neighbouring streets. It is, however, difficult to say whether such cases are secondary or whether they have been caused by the condition responsible for the primary case. The recent experiments of Metchnikoff prove fairly conclusively that the disease is infectious. It is true that his investigations were made with animals, but it would not be justifiable to endeavour to transmit infection from infant to infant. It seems to me that fairly direct evidence of carriage of infection by flies has been made out, *e. g.* fly infection in breast-fed babies. If a diaper which has been soiled by fæces from a case of epidemic diarrhœa is left lying about and flies alight on it,

and afterwards crawl over and contaminate food, surely it is reasonable to suppose that infection might be thus conveyed.

In support of his contention that the disease is not infectious, Dr. Vincent quotes the fact that infants suffering from zymotic enteritis are received at the Infants' Hospital, Westminster, and are treated in the wards alongside of other cases without any attempt at isolation. I do not admit that this conclusively proves that the disease is not infectious. I have had under my charge in the infants' ward of a children's hospital cases of this nature. There were other cases (medical and surgical) in the ward as well. No attempt at isolation in the generally accepted sense of the term was made, but the duty of attending to these infants was, if possible, given to one nurse. Napkins, on removal, were placed in a disinfectant solution, and the nurse, after attending to a case, carefully disinfected her hands, and again scrubbed her hands before preparing any food. Soiled bed-clothes were also placed in disinfectant. It was also customary to reserve a special feeding-cup and spoon for each infant suffering from the disease. With these precautions I had no trouble with secondary cases. It is well known that in some hospitals cases of typhoid fever are treated in general wards, only such simple precautions as I have indicated above being taken. From my own experience I can say that such cases can be thus with perfect safety treated in a general hospital, and yet typhoid fever is infectious.

I am in entire sympathy with Dr. Vincent in his arguing in favour of pure raw milk for infants, as I have always believed that such was the ideal food for them when for any reason they could not be breast-fed. I am, however, not convinced at present that the theory he gives explains the causation of epidemic diarrhœa, although the matter he submits merits careful consideration at the hands of the profession.

Such are the chief ætiological factors in epidemic diarrhœa. The disease is chiefly one of urban life, and is most fatal among the infants of the lower labouring classes. Newsholme (26) points out that this is probably largely a question of social status *per se*, that is, it is due to neglect of infants, uncleanly storage of food, industrial occupation of mothers, etc. There are, however, some exceptions. For instance, in 1907 (I am quoting from the reports of the respective medical officers of health), in Cardiff the death-rate from diarrhœal diseases was 0·35 per 1000 and the deaths of infants under one numbered 53 from this cause, while in Rhondda the corresponding figures were 1·13 and 72. Yet Cardiff is much more urban in character than Rhondda. Local conditions no doubt

influence the prevalence of this disease, and it is quite common to find in mining districts a high mortality from diarrhœa. From statistical evidence Dr. Nash (6) deduced the fact that epidemic diarrhœa is, generally speaking, more prevalent in the great midland and north-western industrial centres than in London, and he explains this on the ground that these former cities to a very large extent have conservancy systems, in the shape of privies, etc., which are haunted by flies and their larvæ, while the latter, London, is a wholly water-closet city.

It is probable that more than one factor plays a part in the causation of this disease, and therefore one cannot justly claim for any one factor a specific action. Nevertheless it seems to me that the fly is the agent responsible in very many cases, and that other factors, though necessary, are indirect. I have carefully avoided laying down any definite conclusions from my own experience, as I hesitate to base statistics on a limited number of cases, owing to the fact that fallacies might arise from paucity of data. I have, however, occasionally ventured a personal note in general terms.

(To be concluded.)

The Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, February the 25th, 1910.

Dr. E. CAUTLEY *in the Chair.*

A Case of Congenital Œdema of the Leg was shown by Mr. MAYNARD SMITH. There was well-marked œdematous swelling of the right foot and of the leg on its front and outer aspects. The leg was half an inch longer than the left. No history of any similar condition in the family was obtainable. The swelling was noticed at birth.

The case was discussed by Dr. ESSEX WYNTER, Dr. SPRIGGS, Dr. PARKES WEBER, and Dr. PERNET.

A Specimen of the Urinary Organs of a Boy, who died apparently from Uræmia, Diphtheritic Membrane being found in the Trachea after Death, was exhibited by Dr. WALTER CARR. Both kidneys were shrunken. The ureters and bladder were considerably dilated, the condition suggesting the existence of some obstruction to the outflow of urine, but none could be found. The boy died after a short illness, with symptoms of uræmia. At the autopsy, in addition to the changes already described, the

lower end of the trachea was found covered with diphtheritic membrane, from which the diphtheria bacillus was isolated.

A Case of Myelogenous Leukæmia in an Infant, aged 18 months, was shown by Dr. WHIPHAM. The child was dark-skinned and flat-nosed, with a widely open anterior fontanelle. The lymphatic glands in the neck, axillæ, and groins were palpable and somewhat hard. The abdomen was enlarged, and the spleen extended to $4\frac{1}{2}$ in. below the umbilical level. The blood-count showed over 20 per cent. of myelocytes. On admission, there was a large subcutaneous hæmorrhage on the extensor surface of the right arm and a similar patch on the right shin. Further blood-counts showed that the number of leucocytes is increasing.

The case was discussed by Dr. FORSYTH and the CHAIRMAN.

A Case of Non-cretinous Mental Deficiency, with Goitre, was shown by Dr. FORSYTH. The patient, a boy, aged $5\frac{1}{2}$ years, was of normal height and weight, and had suffered from fits since the age of two. He is restless, talkative, and decidedly odd. His expression is vacant. His forehead is narrow and asymmetrical. His eyes have marked epicanthic folds. He shows a moderate non-cystic enlargement of the whole of the thyroid gland.

Specimens from a Case of Chloroma, shown at a previous meeting, were shown by Dr. ESSEX WYNTER. The child died in February of asthenia. The specimens show diffuse chloromatous growth transforming all the red marrow, and being conspicuous in the flat bones and ends of the long bones. There were deposits also beneath the periosteum. Glands in the iliac, vertebral and cervical regions were diffusely affected, and the spleen was tinted a similar colour. There were no distinct secondary growths. A colour photograph was exhibited.

Dr. LEADINGHAM, in discussing the case, said that he considered it impossible to divorce chloroma from acute lymphatic leukæmia. He pointed out that the case presented infiltrates in the long bone, which was rather strange, and he regarded the case as a transition type between these two conditions.

A Case of Cyst of the Humerus which had been successfully operated on was shown by Mr. HUGH LETT. The boy, aged 13 years, was knocked down in an accident last August. On examination, the upper end of the humerus was much thickened for about 2 in. below the head of the bone. A fracture was discovered a short distance below the surgical neck. A skiagram showed expansion and rarefaction of the upper 3 in. of the diaphysis of the humerus. Two years previously a diagnosis was made of endosteal sarcoma, and amputation advised. Operation was refused. Operation: The bone was opened and a thin mucoid fluid escaped. The affected part of the diaphysis was removed, leaving an interval of 3 in. between the epiphysis and the healthy part of the shaft. The point of an ebony rod was inserted into the epiphysis, and the blunt end into the medullary cavity of the shaft. In this way the epiphysis was firmly connected with the shaft. The periosteum was sutured. At the present time movement of the right upper extremity is perfect, and the muscles are rapidly increasing in size. The new bone is firm and regular. On microscopical-examination the condition appeared to be one of cystic fibroma.

The case was discussed by Mr. LOCKHART MUMMERY.

A Case of Congenital Absence of the Left Femur was shown by Mr. P. LOCKHART MUMMERY. A male child, aged 2 months. The left femur is absent and there is no thigh. The left leg below the knee is quite normal, but is rotated outwards. The child is the youngest of three, both the others being quite normal; the parents are also normal, and the labour was easy and natural. The X-ray photograph shows that the diaphysis of the left femur is missing. The lower epiphysis of the femur appears to be present, and there is a small island of cartilage just above this, otherwise the femur is absent. The child shows no other congenital defect and is a healthy baby.

A Specimen of Hypertrophic Stenosis of the Pylorus was shown by Dr. J. PORTER PARKINSON. A female infant, who died when aged 5 weeks. No definite symptoms till the infant was three weeks old; then vomiting set in and there was visible stomach peristalsis, and a tumour was felt on one occasion. The specimen shows thickening of the wall of the stomach. At the necropsy this displaced two and a half ounces of water, and doubtless was larger during life. A probe could not be passed through the pyloric opening.

The CHAIRMAN, in discussing the case, said it was a good illustration of one of the usual results of attempting to cure the condition by medical means. There were still many people who supported the view that a cure could be obtained by that means.

Mr. LOCKHART MUMMERY said that these cases must be operated upon at the earliest opportunity if there was to be any chance of saving the child's life; delay was fatal.

A Case of Congenital Thoracic Deformity; Absence of Part of the Pectoralis Major, was shown by Dr. E. I. SPRIGGS. The patient was a boy, aged 11 years. The sterno-costal part of the pectoralis major and the pectoralis minor muscles were absent on the left side. The nipple was normal in appearance, but higher and nearer the middle line than on the right. Photographs were shown on the screen of a number of thoracic deformities of this nature. In many of these cases the costal cartilages and the anterior ends of the ribs were wanting in the mammary region, only a thin layer of skin and subcutaneous tissue protecting the lung. This condition has been ascribed to pressure of the upper limb of the affected side upon the thorax "*in utero*."

Société de Pédiatrie, Paris.

January the 18th, 1910.

The Passage of Carmine through the Digestive Track of Infants.
—MM. NOBÉCOURT and MERKLEN referred to the researches of M. Triboulet and the conclusions he arrived at, and brought forward at the last meeting, namely, that in normal infants, whether at the breast or bottle-fed, after the second month the elimination of carmine in the stools took place in sixteen to twenty-two hours; when this figure fell below

fourteen hours it was an indication of some pathological condition. The authors, having noticed that the stools of infants were coloured red in from three to sixteen hours after the absorption of carmine, did not admit the invariability of M. Triboulet's figures, but considered that the time taken by the passage of carmine is very variable not only in different infants but even in the same subject.

Pseudo-achondroplasia.—MM. ALBERT MOUCHET and SEGUINOT showed a girl, aged 14 years, the subject of micromelia with genu valgum, polydactylia, dental malformations, absence of upper and lower incisors and of nails of two fingers. The head was normal and intelligence fair. Radioscopy showed that the cartilaginous epiphysial bands were less marked than normal.

M. VARIOT said that the case resembled in one particular a case which he had himself lately brought before the Society, namely, in the pathological condition of the skull and brain. In both cases there was absence of the ordinary deformity of achondroplasia and of the psychic disturbances met with in this condition. But as regards the skeleton as shown by the skiagrams there was complete difference between the two cases. Instead of the process of epiphysial cartilaginous ossification being delayed both in the long bones and phalanges as it was in his case, there was on the contrary premature consolidation of the phalangeal epiphyses and the clear band corresponding to the juxta-epiphysial cartilage, and the head of the humerus was reduced to a scarcely perceptible line. This change in the skeleton which is responsible for the arrest of statural growth corresponds rather to the form of achondroplasia called hyperplastic. The marked abnormality of the hands and fingers seemed to point to a profound disturbance in the embryonic and foetal moulding of the components of the skeleton, and this child showed some analogy with cases of foetal rickets and the periosteal dystrophies described by Porak and Durant, and did not correspond to the true type of achondroplasia described by Parrot.

Case of Glandular and Testicular Lympho-sarcoma.—M. LEREBOULLET read the case of a boy, aged 14 years, with multiple glandular swellings in the cervical and inguinal regions, and in the thoracic and abdominal walls. Both testicles were very large and tender on pressure. Cuti-reaction being positive and the supervention of paraplegia indicating Pott's disease led to the diagnosis of tuberculous adenitis. The autopsy, however, showed the glandular enlargements to be sarcomatous. The clinical diagnosis of such cases seems to be impossible.

Two Cases of Bacterial Meningitis in Infants without Cellular Reaction.—MM. E. LÉSNÉ and L. G. SIMON drew attention to a recently observed phenomenon of the cerebro-spinal fluid in certain cases of acute meningitis; when drawn off it is turbid like the fluid in ordinary purulent meningitis, but on centrifugalising the sediment forms imperfectly and the supernatant liquid remains turbid. A drop of this shows exclusively an enormous number of microbes without any cellular element. There is, therefore, a considerable disproportion between the quantity of micro-organisms and the cellular reaction which they have caused. The first case was a child, aged 4 months, who was seized during an attack of otorrhœa with meningeal symptoms, coma and death. Examination of the cerebro-spinal fluid showed numerous streptococci without cellular elements. The second case was a

child with clinical signs of cerebro-spinal meningitis, with purulent fluid, polynucleosis, and pneumococci. An injection of Dopters' serum was given and the next day the child was worse. A second puncture showed pneumococci in large quantities but very few cellular elements. A comparative study of these two cases suggests the following reflections: Since the excessive multiplication of micro-organisms with disappearance of the cellular elements coincided in both cases with a marked aggravation in the patient's condition, and was very soon followed by a fatal issue, the authors think that this characteristic condition of the cerebro-spinal fluid is due to a more or less rapid giving way of the defences of the organism or even to the absence of all defence; the bacteria can then develop freely in the liquid as they do *in vitro*. They also call attention to the grave prognostic value of such a condition.

Acute Malaria in a Child.—MM. LESNÉ and DEBRÉ related the case of a girl, aged 22 months, suffering from extreme pallor, abdominal distension, intestinal disturbance, hypertrophy of the spleen, and in whom the temperature each morning reached 40° C. The child came from Algeria. Examination of peripheral blood did not show hæmatozoa, but that taken by puncturing the spleen gave preparations which showed them in large numbers. Under the influence of injections of formiate of quinine the infant recovered.

On the Reaction of the Stools (Alkaline Neutral and Acid) and their Relative Value in Infantile Pathology.—M. H. TRIBOULET stated that in the breast-fed infant an acid reaction is the rule and that in bottle-fed infants the stools are alkaline, and that any deviation from these reactions shows a more or less marked disturbance. He quoted a number of observations made in acute affections, such as measles, where the evolution of the malady in an unfavourable sense has been heralded by this change in the reaction of the stools. The hepatic functions play an important part in these conditions.

A Case of Typho-bacillosis.—M. L. BABONNEIX read notes of a case of a girl, aged 18 months, suffering from continued fever, with rapid wasting. An area of tubular breathing appeared at the apex of one lung. The serum diagnosis was negative.

Ulceration of the Iliac Artery from Contact with Drainage-Tubes. M. SAVARIAUD read a paper based upon ten cases where the iliac artery was ulcerated in this way. Tubes cut with scissors were most to blame. Ulceration was followed in several cases by fatal hæmorrhage; in some cases this was avoided by immediate suture of the vessel.

Suppurative Adenitis of the Left Iliac Fossa Starting from a Chickenpox Pustule.—M. SAVARIAUD related this case as one of the rare complications of chickenpox.

VINCENT DICKINSON.

Philadelphia Pediatric Society.

STATED MEETING, February the 8th, 1910, CHARLES A. FIFE, M.D., President.

The Cutaneous Diagnosis of Tuberculosis.—Dr. CLEMENS FREIHERR VON PIRQUET, of Johns Hopkins' University, Baltimore, Md., delivered this address, by invitation. After giving a brief history of the diagnostic use of tuberculin and the theories as to its action, Dr. von Pirquet explained the basis of the cutaneous reaction. As in a re-vaccination, an inflammatory reaction of the skin appears only in those individuals who have already been infected, who have, therefore, formed anti-bodies. The tuberculin test is a test of the existence of anti-bodies, its positive issue showing that the organism has had a tuberculosis. A negative issue, in spite of an existing tuberculosis, is seen in several instances, as in the last stages of tuberculosis and during measles. The value of the cutaneous test was discussed on the basis of 328 post-mortem examinations upon children who had undergone it. Practically it should be tried as a matter of routine upon all children taken into a hospital; besides, upon those children only whose symptoms suggest a possible tuberculosis; finally, as a matter of preventive medicine, in orphan asylums, to separate the infected, and keep the remainder aloof from every possibility of infection.

Dr. JOHN HOWLAND, of New York, who discussed the paper by invitation, said: As the result of Dr. von Pirquet's observations, controlled by autopsies and confirmed by numerous workers in all countries, we may assume that the cutaneous test is of the greatest sensitiveness and accuracy. It is true that occasionally it fails in the last stages of tuberculosis and in measles, but in the former of these conditions any treatment is valueless, and only the satisfaction of an accurate diagnosis is affected; and as far as the latter is concerned, one would hardly apply the test during an acute attack of measles. In addition to its sensitiveness and accuracy, the test is the easiest of all biological tests to apply, meets with no opposition, and is almost always readily interpreted. It carries with it also not the least element of risk. With its many advantages and its absence of disadvantages, it seems to me that the benefits that we derive from the von Pirquet reaction can be grouped under four headings. First, the assistance in diagnosis in single patients. Should a positive reaction be obtained, it does not, of course, necessarily mean that the symptoms for which we seek a cause are to be referred to the tuberculosis, but it compels a consideration of this as a possible factor. It may increase our difficulties by increasing our knowledge, and it does this in direct proportion to the age of the child, for the older he is, the more liable is he to react. In children under a year a positive reaction must be considered of the gravest import, as at this tender age the tuberculous process is practically never latent. It is not necessary for me to dwell on the use of the reaction in individuals, or to answer the complaints of those who have criticised it because they were led to believe a condition tuberculous as the result of a cutaneous test which was in reality not so. It would be too much to expect any biological test to show the difference between an active and a latent lesion. For obvious reasons the test is chiefly one for children. In the younger of these it is the positive test that is of value; in the older it is the negative test that is of assistance. The ease of making the test and its accuracy give us the

second benefit, a broader and more general knowledge in regard to the frequency of infection at the different ages than could be obtained in any other way. It shows more clearly than clinical and pathological studies could do the frequency of infection at the various ages and the almost universal infection of adults—surely knowledge of the greatest importance. We have employed the test regularly in the children's wards of Bellevue for more than a year; it is just as much a part of the routine as taking the history. The third benefit is in institutions and asylums, where, on the basis of the cutaneous test, we may segregate the tuberculous and thus institute special treatment for them as well as protect the non-tuberculous. Those who have worked in asylums know what a veritable boon this is. The fourth benefit is in regard to the children of the tuberculous, to recognise those that are infected and treat them in order to prevent, if possible, spreading of the process. In the tuberculosis department of Bellevue this plan has been followed for some time with very interesting and satisfactory results. All adults applying for treatment are requested to bring their children with them at a subsequent visit. All the children are tested, and those not reacting are kept at home if the hygiene of the home be good. Those reacting are examined physically to see if there is any active lesion, and if there is they are immediately placed under treatment in sanatoria or day camps. If there are no signs of an active process they are carefully watched, put in the best surroundings possible, and weighed from time to time. If they fail to gain weight they are considered active cases and treated as such. By virtue of this test, then, we are assisted in diagnosis, obtain a wider knowledge of the disease in general, protect individuals, and treat sufferers from the disease more intelligently and earlier than could otherwise be done. Finally, while the benefit to us remains the same, the credit to Dr. von Pirquet is far greater in that the test was developed, not as the result of a chance observation, but from the basis of sound logical reasoning.

Provincial Societies.

ABERDEEN MEDICO-CHIRURGICAL SOCIETY.

March the 3rd, 1910.

A Case of Fragilitas Ossium.—Dr. ROSE showed a boy, aged 8 years. His legs were said to have been twisted and bent at birth. He was first admitted to the Sick Children's Hospital when fourteen months old for a fracture. Since then he had been admitted at various times for the same cause. He has nine fractures affecting the legs and arms. The mere rising from bed in one instance caused fracture. X rays showed the cortex of the long bones to be thin. There were no fractures of the ribs.

Congenital Dislocation of Both Hips.—Dr. ROSE exhibited two cases, one of a boy, aged 6 years, and another of a girl, aged 7 years. Both had the dislocations reduced by Lorenz's method with excellent results.

A Case of Tuberculous Peritonitis.—A boy, aged 3 years, was exhibited by Dr. MCKERON. He was admitted on October the 11th, 1909. On

admission the temperature was normal. The abdomen was greatly distended and dull all over. The superficial veins stood out prominently. On palpation there was increased resistance in the right iliac fossa and also transversely across the abdomen above the umbilicus, but no definite tumour was palpable. There was slight diarrhoea. Up till December the 25th his condition remained the same, except that he became much emaciated. On December the 25th his temperature began to rise, reaching 101° F.; and from this time till January the 5th, 1910, it continued to oscillate, reaching 103° F. in the evening with a fall to normal in the morning. On January the 5th he had two copious, very offensive serous evacuations, and next day his abdomen was found to be flaccid. No pus was found in the motion. The serum seemed to have burst through the bowel—a most unusual occurrence. On palpation a large rounded mass could be felt in the right iliac fossa, and from this, running across the abdomen obliquely up to the left, was another distinct mass. After this his temperature came gradually down to the normal, reaching this on January the 20th. Since then it was never higher than 99° F. He is now gaining weight rapidly. Only a slight thickening of the omentum can now be felt.

Pemphigus Vulgaris.—Dr. CHRISTIE showed a boy, aged 12 years. When seven years old the eruption began in the scrotum. Twelve months later the face became affected. The eruption has all along been confined to these regions, and he has never since been entirely free from it. Arsenic in full doses cures the bullæ, but they recur as soon as the drug is stopped.

MIDLAND MEDICAL SOCIETY.

Mr. FRANK MARSH, F.R.C.S., *in the Chair*.

March the 2nd, 1910.

A Case of Cervical Ribs in a Child.—Mr. SEYMOUR BARLING showed a boy, aged 8 years, with a cervical rib on each side which had produced no symptoms of pressure upon nerves or blood-vessels.

A Case of Parenchymatous Bronchocele.—Mr. GEORGE HEATON showed a girl, aged 12 years, who was suffering from a large goitre, which had been noticed for two and a half years. The swelling, which was more marked on the right side, had rapidly enlarged during the last twelve months. It caused slight dyspnoea and noisy breathing during the day, and occasional attacks of suffocative dyspnoea at night. The circumference of the neck was $14\frac{1}{4}$ in. There were no symptoms of exophthalmic goitre, but the pulse-rate was 120. During the last three weeks she had been treated with two grains of thyroid extract twice daily, and during that time there had been a slight subsidence of the goitre, and slowing of the pulse-rate.

A Case of Exophthalmic Goitre.—Mr. GEORGE HEATON showed this patient, a boy, aged 15 years. At the age of seven years he had a large goitre, which disappeared under treatment with thyroid extract, but returned

when thyroid feeding was discontinued. When twelve years old he came up to the General Hospital, Birmingham, when he was found to have a large goitre, exophthalmos, and tachycardia. In three weeks under thyroid treatment the goitre had almost disappeared. He had been under the care of Dr. Stanley Barnes since August last. At the present time the goitre was scarcely perceptible, but there was slight exophthalmos. Tachycardia was still present, the pulse-rate being 140-160. He was taking five grains of thyroid extract twice daily, and relapses occurred if the dose was diminished to three grains daily.

A Case of Cerebral Diplegia.—Dr. SAWYER showed a boy, aged $3\frac{1}{2}$ years, suffering from cerebral diplegia. He was unable to stand. There was a spastic condition of the legs, with adductor spasm so that the legs were crossed. On placing the child on his feet he could only put one leg before the other with great difficulty. The child could sit up without assistance. The arms were also affected, but only slightly. The child was clumsy with his hands, and at times there were athetoid movements in them. There was no optic atrophy. The child was quite intelligent, but rather backward. The confinement was easy, no forceps being used, but the labour was premature, occurring during the eighth month. The child was very ill at the age of three months, when he suffered frequently from severe convulsions. The present condition was probably the result of a meningeal hæmorrhage at that time. Dr. Sawyer suggested that the premature confinement might also have had something to do with the degeneration in the pyramidal tract. Labour might have been brought on early by some toxæmic condition present in the mother, which had acted deleteriously upon the pyramidal cells in the child's cortex, either destroying some of them, or producing in them a tendency to degeneration or an inability to develop.

Abstracts from Current Literature.

Medicine.

An experimental investigation into the function of the thymus gland (*Glasgow Med. Journ.*, August, 1908).—Alex. MacLennan has made an investigation into the function of the thymus gland by excising it from a number of young rabbits. Rabbits were chosen because they retain the thymus relatively longer than most animals. Part of the cost of the investigation was defrayed by a grant from the Carnegie Trust. The conclusions which the investigator arrived at were as follows: (1) The thymus may be a lymphatic gland, but it is so specialised as to be virtually something more; it is one of the series of glands which by an internal secretion regulate the various functions of the body. (2) The gland is really an accessory one, for its function can be taken up by others. It is to be remarked that simultaneous extirpation of the spleen and thymus invariably ends in death. One would therefore infer that the spleen can carry on along with its other manifold functions those of the temporary thymus. Extirpation of the thymus does not give rise to hypertrophy of adenoid tissue elsewhere. (3) The function of the gland is temporary, for as growth advances the gland atrophies, though in man the gland never quite disappears till

after puberty. There are cases on record, however, where there has been no thymus. (4) The thymus and the thyroid are closely associated developmentally, anatomically, physiologically, and pathologically. In two extirpations of the gland in the human subject I have found the thymus continuous with the left lobe of the thyroid. The results of experiments have shown that the thymus is unnecessary to the economy when the thyroid is gone, and when the thymus is removed less thyroid suffices. The importance of this relationship is apparent in certain diseases. Thus, there is a type of Graves' disease where extirpation of the thyroid is followed by sudden death, and on post-mortem examination the thymus is found enlarged. An enlarged thymus is credited—certainly rightly in some cases—with being the cause of death in the so-called status lymphaticus, and after removal of the thyroid the enlarged thymus gives rise to the same conditions as produce the so-called thymus death. Therefore, in such cases where thyroidectomy was deemed necessary in Graves' disease, the writer would recommend that the thymus be first sought for, and if enlarged be removed as a preliminary to the thyroidectomy. (5) In certain other diseases, notably laryngismus stridulus, thymusectomy has given good results. The result of thymusectomy is not mechanical, but due to the removal of the internal secretion of the thymus. In this disease and in children subject to "kinks," thymusectomy offers some hope of cure. In cretins, thymusectomy, by reducing the necessity for thyroid secretion, will be beneficial, and ought to be tried. (6) In children who present a fulness over the supra-sternal notch during expiration, straining, or coughing, especial care ought to be taken during surgical anaesthesia, which ought to be of the lightest possible.

JAMES E. H. SAWYER (Birmingham).

Septicæmia following an alveolar abscess (*St. Thomas's Hosp. Rep., vol. xxxv*).—H. R. Dean.—A boy, aged 13 years. There was a history of acute rheumatism at the age of seven years. On the day before admission an abscess in the mouth was opened. The gums, lips, and fauces were covered with a whitish-yellow and offensive exudation. There were signs of consolidation over the base of the left lung. The heart was not enlarged, but a soft systolic murmur was heard at the apex and the second pulmonary sound was accentuated. During the week after admission the temperature varied between 103° and 104·6° F., and during the next three days was frequently reduced by cold sponging. The patient remained in a state of delirium and slept very little. At the post-mortem examination the mitral valve was found to be thickened from old inflammation just above the valve; on the posterior wall of the auricle was a patch of recent vegetations. The lungs were congested and œdematous. The spleen was enlarged and soft, showing numerous hæmorrhages and two small recent infarcts. The appearance of the kidneys suggested acute nephritis. A culture of the *Streptococcus pyogenes* was obtained from the blood.

JAMES E. H. SAWYER (Birmingham).

A case of congenital syphilis and amyloid disease (*St. Thomas's Hosp. Rep., vol. xxxv*).—H. R. Dean.—A boy, aged 10 years. No definite evidence of syphilis in the mother was obtained, but the history was suggestive. The patient had been in St. Bartholomew's Hospital in December, 1905, where acute pericarditis, endocarditis, and pleurisy with effusion were observed. On admission to St. Thomas's Hospital the child was very thin and anæmic. The frontal eminences were prominent, and the

cranial vault seemed large. The abdomen was prominent and the liver edge was felt just below the umbilicus. The spleen was not felt. Both knee-joints, both ankle-joints, and the right wrist-joint were swollen and contained fluid. There was no polyuria, but the urine contained 6 per cent. of albumin as estimated by Esbach's albuminometer. There was no evidence of choroiditis or retinitis. The child was treated with anti-syphilitic remedies, and improved considerably.

JAMES E. H. SAWYER (Birmingham).

Chronic hæmolytic jaundice with splenomegaly (*Gaz. hebdomadaire des Sciences médicales de Bordeaux*, October, 1909).—**Benech** and **Sabrazes** have observed a youth, aged 17 years, who since infancy has had yellowness of skin, urobilinuria, increase of bilirubin in the plasma, and polychromatophilia. The family history is excellent. As an infant he had cervical adenitis and occasional boils and gastro-intestinal troubles; these latter occurred at intervals, and became more frequent after the age of fourteen years. He had vomiting, diarrhoea, colic, and abdominal distension; he became taciturn and suffered from headaches. The jaundice varied, becoming more intense when he suffered from a gastro-intestinal attack. Urobilin was much increased in the urine during these attacks; it became alkaline, and urea and sulphates increased in amount. The spleen reached to the level of the umbilicus. The blood contained 78 per cent. hæmoglobin, 4,185,000 red corpuscles, 9300 white corpuscles of normal kinds. The red cells showed diminished resistance to the action of hæmolysins, and it is supposed that the icterus is the consequence of a hæmolytic action of substances derived from the gastro-intestinal tract during the attacks of vomiting and diarrhoea.

J. PORTER PARKINSON.

Dermal reaction to tuberculin in 300 children (*La Clin. Infant.*, September, 1909, No. 17, p. 524).—**C. Mantoux** and **J. Lemaire** practised these inoculations on 300 apparently healthy children between the ages of 1 and 15 years with the following results: Between 1 and 2 years the reaction was positive in 16 per cent., between 2 and 4 in 57 per cent., between 4 and 7 in 66 per cent., between 7 and 15 years in 84 per cent. These figures show the extreme frequency of tuberculosis latent in children of healthy appearance. The proportion of positive results increases with age very rapidly, so that in older children absence of reaction to tuberculin was almost an exception. As these children belonged to a special class (*Enfants-Assistés*) the results are not applicable to all children of the same age. These children came from wretched surroundings, reeking with tubercle, and from poverty-stricken parents. **M. Broca**, at the Hospital for Sick Children, obtained these results of the same investigation in children who were clinically non-tubercular: Between 1 and 2 years 11 per cent., 2-4 years 12 per cent., 4-7 years 45 per cent., and 7-15 years 68 per cent. These last figures perhaps give a good idea of the proportion of latent tubercle in children constituting the habitual clientèle of the Parisian hospitals.

VINCENT DICKINSON.

Acute anterior poliomyelitis (*Intercol. Med. Journ. of Austral.*, April 20, 1909).—**Green** gives details of two fatal cases of this disease during an epidemic at Bendigo. In a boy, aged 5 years, the disease commenced with symptoms of intense meningitis; after the fall of temperature there was gradual extension of paralysis involving the intercostal muscles. In a baby aged 6 months there occurred on the seventh day dulness of the right lung

with tubular sounds of the upper third, indicating either an invasion by the same organism or a secondary infection. Death occurred on the day following the lung infection. In this case there was a gradual extension of the paralysis after the disease appeared to be at an end. M. D. EDER.

Chronic splenomegalic icterus of infants (*'La Semana Med.,'* May 20, 1909).—**Acuña** showed three cases at the Argentine Medical Society. In all three the jaundice, the conditions of the urine, spleen and liver were the same, but the examination of the blood differentiated them. In the first case, a boy, aged 13 years, there were no important modifications in the blood; it was a case of jaundice due to disease of the biliary canals. In the second, a boy, aged 12 years, the jaundice was congenital. There was marked anæmia, with nucleated reds and myelocytes and granular reds. Thus the jaundice was shown to be due to hæmolytic. M. D. EDER.

Infantile spinal progressive muscular atrophy (*'Wien. klin. Rundschau,'* June 6, 1909).—**Popper** showed a brother and sister, aged 4 and 2 years, with Hoffmann-Werdnig type of disease. The weakness in the legs first appeared at the age of six months, and had progressively extended to the upper limbs. They had, of course, never learnt to walk. M. D. EDER.

The frequency of tuberculosis in children (*'Wien. klin. Rundschau,'* June 6, 1909).—**Hamburger** maintains that the frequency of tuberculosis increases with every year in childhood, and that at puberty about 95 per cent. of all the children in Vienna are demonstrably tuberculous—that does not mean suffering from tuberculosis but infected by tubercle. The results of post-mortem examination, which show a much smaller infectivity, are not trustworthy because there may often be nothing but some change in the bronchial glands, so slight as to escape notice. His and Monti's investigations, which give the figure of 95 per cent., have been obtained by means of cutaneous and subcutaneous tuberculin reactions. This figure agrees with those obtained by Ganghofner in Prague and Harbitz in Christiania. Their figures were somewhat less than those found in Vienna, but the former had not used the subcutaneous method and the latter could readily have overlooked some cases in his post-mortems. M. D. EDER.

Palpation of the spleen in children (*'La Med. de los niños,'* June, 1909).—**Coronas** recommends the following method: The child is seated on the bed or a pillow, and is supported in this position by the physician clasp the left arm round the child's body, drawing it towards him. The right hand is placed over the front of the abdomen; the left, passing beneath the child's left axilla, can palpate the left abdominal region. By this manœuvre the maximum of relaxation of the abdominal walls is obtained. M. D. EDER.

Diagnostic value of lumbar puncture in acute tuberculous meningitis of children (*'Arch. of Pediat.,'* xxvi, 1909, p. 424).—**F. E. Sondern** found tubercle bacilli present in the cerebro-spinal fluid in twenty-two out of twenty-seven cases of tuberculous meningitis on the first examination, and in two others on the second examination. In fifteen cell-counts the lymphocyte percentage was 86. In one case, however, of mixed infection the lymphocyte percentage was 28 and the polynuclear percentage 72. In all the cases the fluid was perfectly transparent and colourless.

J. D. ROLLESTON.

Relative frequency of abdominal tuberculosis in children in Great Britain and the United States (*Arch. of Pediat.*, xxvi, 1909, p. 432).—**D. Bovaird**, jun., has compiled tables contrasting the frequency of abdominal tuberculosis at the Great Ormond Street, Edinburgh, and Glasgow children's hospitals with that in different hospitals in the United States. His conclusions are as follows: (1) Abdominal tuberculosis is three times as common in Glasgow as in London; (2) tuberculosis is much less frequent among children in the United States than in Great Britain; (3) in the total of sick children treated abdominal tuberculosis is fifteen times as frequent in Great Britain as in the United States; (4) abdominal localisation in cases clinically tuberculous is eight times more frequent in Great Britain than in the United States; (5) intestinal infection in the tuberculosis of children is many times more frequent in Great Britain than in the United States.

J. D. ROLLESTON.

The bacterial content of whey (*Arch. of Pediat.*, xxvi, 1909, p. 438).—**O. M. Schloss**, to determine the bacteriological content of whey, conducted two series of experiments. In the first the milk was allowed to clot in clean vessels, the clot well broken up and strained through clean muslin. In the second the milk was made to clot in sterile test-tubes, and the whey expressed from the intact clot was examined. Both series of experiments proved that many of the bacteria are included in the clot, and that the whey contains far fewer bacteria than the corresponding milk.

J. D. ROLLESTON.

Sleep sweats in chronic pharyngeal stenosis (*Arch. of Pediat.*, xxvi, 1909, p. 441).—**J. R. Clemens**.—Excessive and generalised sweating during sleep, independent of posture, time, season of year or amount of covering is an occasional phenomenon associated with adenoids and hypertrophied tonsils. It may possibly be due to irritation of the sweat-centres in the spinal cord.

J. D. ROLLESTON.

Fatal case of recurrent vomiting (*Arch. of Pediat.*, xxvi, 1909, p. 446).—**E. C. Jones** records a case in a boy, aged 3 years, who was regarded as suffering from tuberculous meningitis on admission to hospital. The chief interest of this case lies in the fact that the urine failed to show the acetone reaction. The autopsy showed a large and fatty liver and congested kidneys. All the other organs, including the appendix, were normal.

J. D. ROLLESTON.

Acute dilatation of the stomach in infancy (*Arch. of Pediat.*, xxvi, 1909, p. 454).—**W. P. Lucas** records a case in a boy, aged 11 months, who had been breast-fed for five months, and since then had been taking proprietary foods, but had never done well. The child was admitted to hospital in a moribund condition with a greatly distended epigastrium. Pressure on the abdomen caused an upward gush of air and milk, and the child at once revived. Three similar attacks had occurred within the five days prior to admission. Lucas could find only two other cases in literature of acute dilatation of the stomach in infants. Both were fatal. Rapid feeding with simultaneous ingestion of air gives rise to the condition. Treatment consists in emptying the stomach at once.

J. D. ROLLESTON.

Pulmonary phthisis in school children (*Journ. Roy. Inst. Public Health*, 1909, p. 83).—**J. A. Coutts** regards pulmonary phthisis as

excessively rare in children. The post-mortem records of the last three and a half years at the Children's Hospital at Shadwell showed that only two cases had been examined, one a girl, aged 14 years, and the other a child, aged $4\frac{1}{2}$ years. The rarity of phthisis in children is further proved by the absence of epidemics of tuberculosis in schools. Tuberculosis in school children as a rule either takes the generalised form, or, if chronic, is situated in some organ or tissue where it will not be of danger to other children.

J. D. ROLLESTON.

The status of the kindergarten (*'Arch. of Pediat.,'* xxvi, 1909, p. 251).—**I. A. Abt.**—This paper is based on answers to inquiries sent to physicians, teachers, and mothers. Of 119 physicians 55·46 per cent. were in favour of kindergartens, 21 per cent. gave unfavourable replies, chiefly on account of insufficient or improper medical care, and 23·50 per cent. were indifferent; 40·35 per cent. admitted greater susceptibility to contagious disease during kindergarten attendance.

J. D. ROLLESTON.

An exception to Colles's law (*'Journ. de Méd. de Bordeaux,'* 1909, p. 91).—**Frèche** presented at the Bordeaux Medical and Surgical Society a woman with a hard chancre of the left breast, which had appeared three weeks after she had started suckling. Her child when seen one month after birth showed papular syphilides on the forehead and cheek, mucous tubercles of the labial commissures, large papulo-erosive syphilides on the abdomen and buttocks, and well-marked coryza. **Dubreuilh**, in the subsequent discussion, stated that the lesion showed the typical appearance of a hard chancre, and that in spite of Colles's law a different diagnosis could not be given (*cf. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1909, p. 324).

J. D. ROLLESTON.

Sigmoiditis in convalescence from scarlet fever (*'Bull. et Mém. de la Soc. Méd. des Hôp. de Paris,'* xxviii, 1909, p. 65).—**R. Morichau-Beauchant.**—A girl, aged 8 years, who had previously suffered from indigestion two or three times a year with slight pain situated exclusively in the left side of the abdomen, on the twenty-third day of a mild attack of scarlet fever complained of pain in the left iliac fossa, in which a somewhat tender sausage-shaped swelling could be felt. The following day the pain, which at first occurred only during defæcation, became more frequent and severe, the abdomen became distended, and the left thigh flexed on the pelvis. The pain was considerably increased by a dose of castor oil, but was relieved within twenty-four hours by the application of ice, morphia suppositories, and by restriction of diet to an occasional teaspoonful of water. By the thirty-fourth day the temperature, which had ranged from 100° to $103\cdot6^{\circ}$ F., became normal, and spontaneous pain disappeared, and by the fortieth day the patient was able to take ordinary diet.

J. D. ROLLESTON.

Simulated diseases in children (*'Thèses de Paris,'* 1908–1909, No. 349).—**G. Saglier** has collected thirty-five cases from literature of diseases simulated by children whose ages ranged from 6 to 19 years. Simulation is rare in very young children, being seldom seen before the age of 6 or 7 years. Subsequently the tendency increases, and is at its maximum between 12 and 15, after which it begins to decrease. The subjects are not absolutely normal, but the victims of hysteria, or at least neuropaths. Every variety of disease may be simulated, but affections of the nervous system, especially epilepsy, are most frequently chosen.

J. D. ROLLESTON.

Scarlet fever in the Metropolitan Asylums Board hospitals (*Metropolitan Asylums Board Reports*, 1908).—19,629 cases of scarlet fever were admitted during 1908. The mortality was 2·56 per cent.—the lowest yet recorded in these hospitals. The percentage error of diagnosis was 6·1. Among the 1202 cases wrongly certified as scarlet fever were 97 of measles, 46 of rubella, 18 of varicella, 22 of pneumonia, 280 of tonsillitis, 267 of erythema, and 274 had no obvious disease or were not diagnosed. The commonest complications were otitis (12·45 per cent.), albuminuria (11·18 per cent.), secondary adenitis (7·50 per cent.), nephritis (6·37 per cent.), and rheumatism (3·67 per cent.); 258 cases, or 1·28 per cent., had relapses. There were 375 cases (1·87 per cent.) of post-scarlatinal diphtheria with 6 deaths, a mortality of 1·60 per cent. J. D. ROLLESTON.

Diphtheria in the Metropolitan Asylums Board hospitals (*Metropolitan Asylums Board Reports*, 1908).—5230 cases of diphtheria were admitted during 1908. The mortality was 9·73 per cent.—a slight increase over that of the previous years (*v.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1908, p. 502, and 1907, p. 361). 4583 were treated with antitoxin; of these 498 died—a mortality of 10·87 per cent. The mortality at the various hospitals varied from 6·9 to 13·3 per cent. Of 664 not treated with antitoxin 9 died. These were either moribund on admission or late cases with clean throats. Among 848 laryngeal cases there were 144 deaths—a mortality of 16·98 per cent. On 339 tracheotomy was performed, on 36 intubation, and on 20 both operations, among whom there were 97, 7, and 20 deaths respectively. The percentage error of diagnosis in the cases admitted was 22·0. Among the 1159 cases wrongly certified as diphtheria were 802 of tonsillitis, 51 of measles, 44 of rhinitis, and 14 of pneumonia. Eighty-four had no obvious disease or were not diagnosed. Of complications, paralysis occurred in 14·97 per cent., albuminuria in 24·66 per cent., and otitis in 4·01 per cent. Serum rashes occurred in 30·35 per cent., joint pains in 3·80, and abscesses at the injection site in 0·55 per cent. Of sequelæ, scarlet fever occurred in 4·78 per cent., measles in 0·53, and whooping-cough in 0·34 per cent. J. D. ROLLESTON.

Venereal disease in children (*Johns Hopkins Hosp. Bull.*, 1909, p. 142).—**Flora Pollack**, in a report on 187 children treated in the Women's Venereal Department of the Johns Hopkins Hospital Dispensary, states that acquired venereal infection in children is much commoner than the medical profession or laity realise. Accidental infection by towels, baths, or toilet articles probably occurs in less than 1 per cent. In most cases the disease is due to the superstition that syphilis or gonorrhœa can be cured by infecting a healthy person, preferably a virgin. In only a few cases is sadism the motive. The great majority of the cases, especially among the white children, were six years old and under. After six the coloured children outnumbered the white. The clinical course of venereal infection is milder in the child than in the adult, but the number of complications and the duration of the disease are almost identical. The double infection of syphilis and gonorrhœa occurred in thirty-six cases. Five children whose ages ranged from thirteen to fifteen years were pregnant. The paper is illustrated by charts showing the number and ages of the children and the seasons of infections. J. D. ROLLESTON.

Erythema nodosum and tuberculosis (*Presse méd.*, 1909, p. 457).—**A. B. Marfan** has seen several cases which confirm the doctrine of Lan-

douzy that a relation exists between erythema nodosum and tuberculosis. Five cases recently under his care all gave a positive von Pirquet's reaction, though only two showed clinical evidence of tuberculosis. Similarly Calmette's reaction was positive in five cases observed by Lévy-Franckel. The experiment of Hildebrandt, who injected 5 c.c. of blood taken from a patient with erythema nodosum into the peritoneum of two guinea-pigs, both of which became tuberculous, seems to indicate that this skin lesion is the expression of a relatively benign tuberculous septicaemia. Chauffard and Troisier, by an intra-dermic injection of tuberculin in a girl suffering from pulmonary tuberculosis, produced lesions whose course and evolution were identical with erythema nodosum. Erythema nodosum should not, therefore, be regarded as a sign of arthritism or dyspepsia, but should be considered as an expression of tuberculosis, and the appropriate treatment should be adopted.

J. D. ROLLESTON.

Three cases of pyelitis (*'Arch. of Pediat.,'* 1909, p. 217).—**C. G. Kerley** records the histories of three cases in girls, aged 12, 13, and 18 months. All were treated with 2 gr. of urotropine six times daily and made a complete recovery. The temperature was in each case irregular, being sometimes high in the morning and low in the evening. Intermissions of normal temperature periods were also noted.

J. D. ROLLESTON.

Miliary tuberculosis (*'Arch. of Pediat.,'* 1909, p. 220).—**A. F. Hess** records a case in a boy, aged 3½ years, in whom this diagnosis was made by finding tubercle bacilli in the blood. The cerebro-spinal fluid also contained tubercle bacilli, though no signs of meningitis existed. The diagnosis at first wavered between typhoid fever, sepsis, and miliary tuberculosis. No autopsy was performed.

J. D. ROLLESTON.

Scarlet fever carriers (*'Arch. of Pediat.,'* 1909, p. 112).—**C. Herrman** believes that desquamation is an unimportant factor in the spread of the disease, and that more importance should be attached to the infectivity of the secretions from the nose, throat, and ears.

J. D. ROLLESTON.

Hydronephrosis in the infant (*'Pediatrics,'* 1909, p. 146).—**C. G. Grulee** records a case of double hydronephrosis, most marked on the right side, in a male, aged 6 weeks. The condition was probably due to phosphatic sand in the renal pelvis. The symptoms were emaciation, vomiting, and crying spells suggestive of intestinal colic. Micturition was frequent, and on one occasion at least some fine white sand was passed. At times a tumour could be felt. Death was probably due to uræmia.

J. D. ROLLESTON.

A case of scurvy (*'Arch. of Pediat.,'* 1909, p. 128).—**E. A. Riesenfeld** records a case in a child, aged 10 months, who had been breast fed for the first three weeks only and had been given a patent food for the last seven months. Skiagrams showed sub-periosteal hæmorrhages and an irregular shadow at the femoral and tibial epiphysial lines. Rapid improvement followed a raw milk mixture to which fruit juices had been added.

J. D. ROLLESTON.

The diazo-reaction in eruptive fevers (*'Thèses de Lyon,'* 1907-8, No. 14).—**A. Donneaud** found the reaction almost invariably positive in measles (93 per cent.), much less frequent in scarlet fever, smallpox, and erysipelas

(28·5 per cent.), and negative in varicella, rubella, and vaccinia, as well as in diphtheria and serum eruptions. Its usual duration is from five to six days. The colour corresponds fairly closely to the temperature, but bears no relation to the intensity of the eruption.

J. D. ROLLESTON.

Congenital malformation of the œsophagus (*Arch. of Pediat.*, 1909, p. 161).—**J. P. Crozer Griffith** and **R. S. Lavenson** review the literature, and report a case in a male child, aged 9 days, who died a few hours after admission to hospital. Since birth he had been unable to swallow. No vomiting occurred except after nursing. The parents and their five other children were healthy. Autopsy: The pharyngeal portion of the œsophagus was slightly dilated, but otherwise normal to 4 cm. below the upper level of the larynx, where it ended abruptly. The lower portion was normal from the stomach upwards to within a short distance of the upper portion, where it became narrower and opened into the trachea.

J. D. ROLLESTON.

Pyelitis terminating in suppurative nephritis (*Arch. of Pediat.*, 1909, p. 213).—**J. P. West**.—A girl, aged 10 months, on the sixth day of lobar pneumonia, on which the crisis took place, developed signs of pyelitis which lasted for ten days. On the sixteenth day severe gastro-intestinal and pyæmic symptoms supervened, and death took place eight days later. Vulvovaginitis appeared a few days before death. Autopsy: The glomeruli were not affected, but the tubules were disintegrated and greatly distended with leucocytes and clumps of bacteria. The absence of glomerular changes and the presence of bacteria in the tubules seemed to indicate an ascending rather than a hæmatogenous infection.

J. D. ROLLESTON.

Influenza presenting unusual aspects (*Arch. of Pediat.*, 1909, p. 223).—**J. Hemenway** describes two cases, in both of which influenza bacilli were obtained in pure culture from the pharynx. The first case, a male, aged 9½ months, after showing signs of bronchitis developed double otitis media, followed by an irregular pyrexia of twelve days' duration. The second case, a girl, aged 4 years, whose initial symptoms were acute coryza, bronchitis, and cervical adenitis, developed acute hæmorrhagic nephritis. Both made a complete recovery.

J. D. ROLLESTON.

A case of lead poisoning (*Arch. of Pediat.*, 1909, p. 131).—**H. W. Wright** records a case in a girl, aged 8 years, in whom the symptoms started a fortnight after the house had been painted and papered. The onset occurred with vomiting and fever, followed by generalised convulsions and unconsciousness. Anterior poliomyelitis was at first suspected. A week later characteristic lead palsy developed. There were occasional attacks of intestinal colic.

J. D. ROLLESTON.

Hæmorrhage into the supra-renal capsule (*Archiv. of Neurol. and Psychiat.*, vol. iv, 1909).—**Candler** states that hæmorrhage into the supra-renal capsule may occur as the result of either active or passive congestion, and that the former appears to be more prevalent in young children and in the still-born. Injury at birth may be the cause in the newly-born, while in young children the condition may develop during the course of acute infections, especially diphtheria, or it may come on quite suddenly in a previously healthy child, accompanied by a purpuric eruption, fever, and sometimes convulsions, suggesting the onset of some toxic infection. Accord-

ing to Rolleston, the characteristic features of hæmorrhage into the suprarenal in children are a sudden onset with fever, pain in the hypochondrium, radiating into the loins, convulsions, vomiting, diarrhœa, and later, tympanites, collapse, and death within forty-eight hours. T. R. WHIPHAM.

Pathology.

The presence of sudanophile leucocytes in diphtheria (*Riv. di Clin. Pediat.*)—**Benini** states that in diphtheria there is an increased leucocytosis, which is more marked according to the severity of the infection. The injection of antitoxin produces a hypoleucocytosis for half an hour, followed by a hyperleucocytosis which lasts for twenty-four hours. The leucocytes contain sudanophile granules, indicating that an intoxicating agent is circulating in the blood and having a specific action on it, causing degenerative changes in the cells. No pus-corpuscles are found, but the sudanophile granulations are present in even the mononuclear leucocytes, and occur more frequently in simple angina than in "croup" cases. They vary in number with the severity of the disease, and are thus an indication of its intensity. On the third day they begin to diminish in number, and disappear with convalescence. Injections of antitoxin have no direct influence upon them. They reappear in febrile complications, but are not found in post-diphtheritic paralysis. T. R. WHIPHAM.

Pathology of thymic hyperplasia and status lymphaticus (*Arch. of Pediat.*, vol. xxvi, 1909, p. 597).—**A. S. Warthin** thinks that the literature of the last ten years offers positive proof of the occurrence of pressure-symptoms due to an enlarged thymus, and has collected forty-one cases from the autopsy material at University College, Michigan, in nineteen of which thymic hyperplasia was associated with sudden death, while in the rest death was due to intercurrent affections. The common pathological features in these cases were an absolute or relative thymic hyperplasia and local or general changes in the lymph-glands. In all the constitution was below par. Fourteen showed evidence of pressure upon the underlying structures, chiefly in the form of tracheal stenosis, marked flattening, adhesions, atrophy, anæmia, or hæmorrhages. Warthin regards the status lymphaticus as a chronic lympho-toxæmia, and not as a specific infection or intoxication. It may be a feature of rickets, syphilis, tuberculosis, or any other latent chronic infection which makes demands on the lymphoid tissues. In a critical review of the literature Warthin makes special mention of von Sury, who, on the ground of his experience in the medico-legal institute at Vienna, rejects all cases of thymic death as not being above criticism. Among 2341 autopsies at this institute on children whose ages ranged from 0 to 15 years there had not been a single case which would justify the diagnosis of thymic death through pressure on the trachea, great vessels, or nerves. Flattening of the trachea von Sury does not regard as pathological, since it may occur in children who show no thymic enlargement. In sudden death in children some other cause of death than an enlarged thymus should be sought, such as enteritis or bronchitis.

J. D. ROLLESTON.

Therapeutics.

Three cases of epidemic cerebro-spinal meningitis (*La Clin. Infant.*, July, 1909, No. 13, p. 394).—**Robert** and **Rudinesco** report three

cases treated with anti-meningococcic serum. Each case commenced suddenly with general febrile symptoms, but nuchal rigidity, though slight, was noticed early. Lumbar puncture gave valuable information, and in one case an organism identical with Weichselbaum's meningococcus was found. The cases received 90 c.c., 105 c.c., and the third, aged 3 years, 95 c.c. After each injection the temperature fell rapidly, but rose again either the same or the next day. Each time it rose to 39° C. or more a fresh dose of serum, 20 to 30 c.c., was injected. A distinct fall in temperature and remission of symptoms were signals for discontinuing the injections. Doses from 100 to 120 c.c. are well borne by children, and in these three cases the only inconvenience was a slight ordinary erythema, which disappeared in a few days.

VINCENT DICKINSON.

Scarlet fever, with special reference to serum treatment (*St. Petersburg Med. Woch.*, May 16, 1909).—**Blacher** concludes from his personal observations that Moser's serum is of the greatest value. He found a fall of temperature, remarkable general improvement, cessation of the necrotic process in the throat and in the glands occurred only when the injections were given early (first to third day). On the other hand the presence of a large quantity of horse-serum (150 to 300 gm.) in the organism must be reckoned with. A dangerous serum disease can arise some seven to twenty days later with high and sometimes lengthy remittent fever. During this period the latent streptococcic processes may flare up, giving rise to the secondary complications. This apparently results from a decline in the immune bodies consequent on the serum disease. M. D. EDER.

The treatment of tinea tonsurans (*Amer. Journ. of Med.*, 1909).—**Sutton** finds that the treatment of ringworm of the scalp by X rays on Sabouraud's principle has not been very successful in America, possibly owing to the climate affecting changes in the pastille. The writer recommends the following treatment, either with or without X-ray epilation. A patch of diseased skin not larger than 30–35 sq. cm. is well rubbed with a warm mixture of iodine 7 parts, potassium iodide 5 parts, goose-grease 100 parts. Half an hour afterwards a 2 per cent. solution of mercuric chloride in goose-grease is applied. The treatment is repeated a few times at intervals of about a week. The use of freshly formed iodide of mercury is not a new one, but Sutton finds the method very effective.

T. R. WHIPHAM.

Surgery.

On tuberculous joint disease (*St. Petersburg Med. Woch.*, February, 1909).—**Saarfels** gives the results of eight years' work, during which time 179 patients were treated, of which 63 per cent. were boys and 37 per cent. girls. In 56·5 per cent. the left joint was affected, in 38·5 per cent. the right joint, and both in 5 per cent. Thirty patients were in the fourth year when the illness began; the average of the later years is 13½. So far as diagnosis is concerned atrophy of the muscles is a constant feature in quite early cases. The final results have been ascertained in 93 cases: The mortality was 24·3 per cent., still ill 18·9 per cent., and recovered 56·8 per cent. The functional result has been ascertained in 60 cases: All these can walk, 52 without help, 3 with crutches, 4 with a stick, and 1 with an apparatus; 17 have a movable joint, 31 have some shortening, 24 ankylosis, and 15 adduction. One hundred and five of the cases were treated conservatively.

in 55 a radical resection was performed, and in 19 cases erosion of the joint. The results cannot be fairly compared because resection was only done in the worst cases. The mortality was 23·8 per cent. for those conservatively treated and 33·8 per cent. for those submitted to operation. In favour of operation there is, according to the figures, a lessened danger of extension of the disease to other parts—for the deaths from meningitis were ten times as numerous in the cases not submitted to excision—and a shortening in the time required for recovery. From the experience gained by these cases the treatment in the children's hospital during the last year has been now modified in the following directions: (1) The indication for resection has been broadened, and in every case where operation is required the radical resection has been performed instead of erosion, which has been shown to give inferior results. (2) A supporting apparatus, when required, has been replaced by plaster bandages, not only for conservative treatment, but also for resections. The results, so far as known at present, with these methods are very satisfactory.

M. D. EDER.

Intussusception in purpura (*Arch. of Pediat.*, xxvi, 1909, p. 287).—**J. Lovett Morse and J. S. Stone.**—A girl, aged 7 years, whose family history was negative, five days before admission to hospital developed a purpuric eruption on her legs and thighs. Two days before admission diarrhœa began. The motions were at first fœcal, but within a few hours consisted almost entirely of blood. There was much vomiting of yellow fluid, occasionally streaked with blood, and some pain in the right side of the abdomen. On admission a slightly tender sausage-shaped tumour was found on the right side, just above the brim of the pelvis. Operation showed an ileo-cæcal intussusception. By combined taxis and traction the bowel was reduced. For the next six days the temperature remained at about 100° F., and on the seventh rose to 103° F., when there was marked pain in the right side, followed by considerable vomiting and three severe intestinal hæmorrhages. As a recurrence of intussusception was feared, the wound was re-opened, but nothing found. Beyond a recurrence of purpura on the limbs two and a half weeks after the second operation the subsequent history was uneventful.

J. D. ROLLESTON.

Congenital recesses of the lower lip (*Liverpool Med.-Chir. Journ.*, vol. xxix, 1909, p. 352).—**R. C. Dun** records three cases of this interesting condition, of which only thirty-eight cases have been published. In nearly all it has been associated with hare-lip with or without cleft palate, and in many several members of the same family have been similarly affected. Case 1: In addition to double hare-lip and cleft palate the child had two small openings on the thickened and everted lower lip symmetrically placed and close to the middle line. From the openings sinuses ran downwards on the outer aspect of the lip. Case 2 was similar to the first, but at the orifices of the sinuses nipple-like processes were present which were capable of retraction and protrusion like feelers. Case 3 also had hare-lip and cleft palate, but instead of two symmetrical sinuses showed a single mesially placed cavity in the lower lip three quarters of an inch long and a quarter of an inch deep. The left testis was undescended, and the right lay in front of the pubes and partly on the dorsum of the penis. Death took place at the age of two weeks. In the other cases the lining membrane of the sinuses was dissected out, and proved to be similar to that of the lip and to certain numerous mucous glands. In none of Dun's cases was

there a family history of congenital recesses of the lip or of any other deformity. For the literature reference is made to Clogg's paper in the *BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1907, p. 52.

J. D. ROLLESTON.

Correspondence.

To the Editor of THE BRITISH JOURNAL OF CHILDREN'S DISEASES.

DEAR SIR,—I was unfortunately not able to be present when Dr. Russell's paper on "A Case of Cyclic or Recurrent Vomiting," published in the February number of the *JOURNAL*, was read. I had no opportunity, therefore, of hearing any discussion that may have followed, and must run the risk, in the few comments that I desire to make on this paper, of traversing ground that may have already been covered.

With the pathological chemistry of the case I am not concerned at present.

Dr. Russell remarks that "hypertrophic stenosis is an affection of young infants," and later on, that "this condition might be overlooked at an autopsy on a child past the age at which that condition is apt to be present." He appears to assume, therefore, that the condition does not persist. The cases that I have been able to collect show very clearly not only that the condition does persist, as would naturally be expected, but that more or less characteristic symptoms may arise at various periods of life.

Shaw and Elting's patient was sixteen months old when operated on. This child had been under treatment for vomiting, etc., for five months. At the operation hypertrophic stenosis was found; an anterior gastro-enterostomy was performed and the patient recovered. Sonnenberg performed pyloroplasty on a child, aged 6 years, for this condition. Hansvy's case, which is stated to have been "doubtless a case of congenital muscular hypertrophy of the pylorus," began in the first week and the child lived till the fifth year, although he always remained very emaciated. After death the pylorus was described as "invested with a hard substance or scirrhusity which so completely obstructed the passage into the duodenum as to admit with the greatest difficulty the finest fluid."

I have found various specimens in museums strongly suggestive—to say the least—of persistence of the condition for a long period. In St. George's Hospital Museum we have two specimens in which no evidence of healed ulcer or the like exciting cause can be made out, and in which there is marked hypertrophy of the pyloric canal. In one case the age was fifty-one and in the other fifty-six. A specimen of an adult stomach, showing the same condition, has either recently been added to the Museum at the College of Surgeons or will shortly be put on the shelves.

In wholly illustrated cases hypertrophic stenosis is not necessarily a fatal affection, though it is an exceedingly grave one in infancy when there is a marked degree of the condition.

Into the much debated question of the pathology I do not wish to enter again at present. I am no believer in the view that hypertrophy is due to

over-use, as the result of spasm, of the pyloric sphincter. Such a view could hardly explain the fact that marked hypertrophy of the pyloric canal may be found to exist before birth. I have a specimen showing great hypertrophy of the pyloric canal in the stomach of a seven months foetus.

In some Hunterian lectures, given at the College of Surgeons in 1905, I drew attention to the probable part that the mucous folds in the pyloric canal play in completing pyloric obstruction when hypertrophic stenosis exists, and I cannot but think that this cause is the chief explanation in such a case as Dr. Russell has described.

I notice that in the remarks on treatment Dr. Russell makes no allusion to the question of operation. Doubtless the propriety of operation was considered in his case, and it would be interesting to learn the grounds on which it was negatived. At the age of Dr. Russell's patient—four years and nine months—the prospect of immediate risk of operation would be far less than in the case of a child only a few weeks old. Moreover, there is a greater choice of operative procedures, and if an operation, such as pyloroplasty, is not held to be suitable, gastro-jejunostomy can much more easily be performed than in an infant. An anterior gastro-jejunostomy has for the most part been performed in young infants when this operation has been selected at all, but the posterior operation at the age of five will probably be found suitable, and it is a better procedure.

Yours faithfully,
C. T. DENT.

Obituary.

GEORGE CARPENTER, M.D.LOND., M.R.C.P.,

Editor and Founder of the BRITISH JOURNAL OF CHILDREN'S DISEASES.

WE greatly regret to announce the death of Dr. George Carpenter, which occurred very suddenly on Easter Day. His death will be felt to be a very great loss by all those who study disease in children, not only in the British Isles, but also throughout the world. Especially is his death deplored by his colleagues on the editorial staff of the *BRITISH JOURNAL OF CHILDREN'S DISEASES*, which journal, by his energy and perseverance, he founded seven years ago, and which, under his able editorship, has become fully established as truly representative of pediatrics in this country. The April number of the *JOURNAL* will contain a full obituary notice of the life of Dr. George Carpenter.

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THE LATE GEORGE CARPENTER, M.D.

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

VOL. VII.

APRIL, 1910.

No. 76.

In Memoriam.

GEORGE CARPENTER, M.D.LOND., M.R.C.P.

WITH very deep regret we record the death of our founder and editor, Dr. George Carpenter, which occurred suddenly on Easter Day, March the 27th, from cerebral hæmorrhage at the early age of fifty. His death came as a sudden shock to his many friends, some of whom have expressed their love and regard for him, and their appreciation of his work in connection with the study of disease in children, in letters to us. These we gladly publish, as they show better than anything else could the personality of the man. To the BRITISH JOURNAL OF CHILDREN'S DISEASES his sudden death is a great calamity. By his untiring energy, strengthened by his firm belief that thereby he could help on the study of that branch of medicine which was so dear to him, and by the assistance of many friends who shared his belief, he was able to bring into existence this JOURNAL, which is now in its seventh year of publication, and which, under his able editorship, has become fully established as truly representing pediatrics in this country. His loss is great indeed, but it is confidently believed that the JOURNAL which he founded will become more and more indispensable to those who are devoting their lives to the advancement of our knowledge of diseases in children.

Dr. George Carpenter was the eldest son of Dr. John William

Carpenter, and was educated at King's College School and Epsom College. He pursued his medical studies at St. Thomas's Hospital and at Guy's Hospital. At St. Thomas's Hospital he won the Third College Prize for 1880-1, and the First College Prize in 1881. As a second year's student he won the Third College Prize and the Prosector's Prize. He qualified as a member of the Royal College of Surgeons of England, and a Licentiate of the Society of Apothecaries in 1885, and took the degree of M.B. at the University of London in 1886, and that of M.D. in 1890. He became a member of the Royal College of Physicians in 1889. His first appointment at a children's hospital was that of Resident Medical Officer at the Evelina Hospital, where he also held the post of Medical Registrar, and finally became one of its physicians. He resigned this appointment on being elected Physician to the Queen's Hospital for Children, Bethnal Green, which post he held until the time of his death. He was also Physician to the North-Eastern Hospital for Sick Children.

Dr. Carpenter's work in connection with diseases in children is well known and highly appreciated. As far back as 1896 an attempt was made in this country to bring about a greater interest in the diseases of children by the publication of an Anglo-American Journal, entitled 'Pediatrics,' of which Carpenter was the English editor. This journal was supported by the literary contributions of Dr. Henry Ashby, Dr. Leonard Guthrie, Mr. Sydney Stephenson, Dr. G. A. Sutherland, Mr. Macleod Yearsley, Mr. Edmund Owen, Dr. John Thomson, Dr. Wayland Chaffey, Mr. Charles Morton, and others; but, as Dr. Carpenter wrote, "the psychological moment had not arrived, and the venture succumbed, as far as the English edition was concerned, in a comparatively short time."* It was after this failure that the BRITISH JOURNAL OF CHILDREN'S DISEASES was founded by him in 1904.

The Society for the Study of Disease in Children was founded in 1900, and was a success from its commencement. Dr. Carpenter took an active part in its formation, and was associated in this undertaking with the late Dr. A. Ernest Sansom, the late Dr. Henry Ashby, Mr. Alfred H. Tubby, Dr. David B. Lees, Dr. G. A. Sutherland, Mr. Sydney Stephenson, and Mr. Clement Lucas. He became secretary in the second year of its existence, holding this office for three years, and was president when the Society was incorporated in the Royal Society of Medicine in 1908. He edited the eight volumes of the 'Reports of The Society for the Study of Disease in

* 'Reports of The Society for the Study of Disease in Children,' vol. viii, p. xxix.

Children,' and in so doing he put in a great amount of strenuous work, for which he was amply rewarded by the enthusiasm with which they were received. These eight volumes contain 384 pages of ordinary matter, 2760 pages recording the scientific work of the Society, together with 209 illustrations in the text, 39 plates, and 12 coloured plates. The small volume, No. IX, containing 104 pages devoted to a general index to the whole series, rendered the work complete. The cost of printing and production amounted to about £1400. These volumes will remain as a lasting memorial to him.

Upon the Society being amalgamated with the Royal Society of Medicine, as the Section for the Study of Disease in Children, Dr. Carpenter was elected President of the Council, which post he held at the time of his death. His 'History of The Society for the Study of Disease in Children,' which appeared in Vol. VIII of the 'Reports,' is a very careful compilation, and of great interest to those who have observed the progress that the study of children's diseases has made during the last ten years.

Dr. Carpenter's work was well known in France, for he was a corresponding member of the Pediatric Society of France and a member of the French Ophthalmological Society, and to each of these he contributed scientific papers. His interest in ophthalmology was very keen, as is shown by his membership of the Ophthalmological Societies of the United Kingdom and of France.

Dr. Carpenter was the author of many important articles upon children's diseases, and perhaps the most noteworthy are those on congenital malformations of the heart. He published in 1894 a little book, entitled 'Congenital Affection of the Heart,' and the Wightman Lectures which he delivered last year were devoted to the same subject. In these he collected in a useful form a large amount of information, and dealt chiefly with the differential diagnosis of the malformations. These lectures were published in full in the August, September, and October numbers (1909) of this JOURNAL. He published in 1901 an instructive and well-written book on 'Congenital Syphilis in Children in Everyday Practice.' His other book, entitled 'Golden Rules for Diseases of Children,' entered a second edition. Most of his important contributions are to be found in the 'Reports of The Society for the Study of Disease in Children,' in the BRITISH JOURNAL OF CHILDREN'S DISEASES, and in the 'Lancet.'

Dr. George Carpenter married only two years ago Helen Jeanne, daughter of Henry, Baron d'Este, and every sympathy is felt with this lady in her great loss.

The Lancet, April the 9th, 1910:

We regret to record the somewhat early death of Dr. George Carpenter, which occurred in London on Easter Day, whereby the medical profession has lost one of the most able and hard-working investigators of the diseases of children in this country.

* * * *

Dr. Carpenter was an indefatigable worker at all that concerned children's diseases, and contributed considerably to their literature. He founded and was the editor of the *BRITISH JOURNAL OF CHILDREN'S DISEASES*, and was chairman of the Council of The Society for the Study of Disease in Children and editor of its 'Reports' before its incorporation in the Royal Society of Medicine, when he became president of its Section for the Study of Disease in Children, to the proceedings of which he frequently contributed papers and cases. He was also a vice-president of the Society. He was the English editor of 'Pediatrics,' the American journal of children's diseases, and was a corresponding member of the Pediatric Society of Paris, while his interest in another branch of medicine was shown by his membership of the Ophthalmological Societies of the United Kingdom and of France. Whilst he took a general interest in the pathology of childhood, the study of congenital diseases of the heart occupied so much of his attention that he became an acknowledged authority in that field of study. In 1894 he published a book on the subject, the evident outcome of careful thought and arrangement of ideas, and his further experience on congenital cardiac affections was crystallised in the Wightman lectures delivered last year and published in abstract in our columns. Another careful compilation was his work on 'Congenital Syphilis of Children in Everyday Practice,' published in 1901. He was, moreover, a frequent contributor to the medical journals, and of his papers published in such a manner we may recall the following, which were printed in 'The Lancet': "The Differential Diagnosis of Abdominal Disease in Children"; "Tuberculosis of the Choroid"; an address on "Acute Pleurisy with Effusion"; on "Cases of Uncomplicated Myocarditis in Children"; "Lecture on Rearing of Children" (Institute of Hygiene, February, 1907); "A Fatal Case of Chorea associated with Double Optic Neuritis and Hyperpyrexia in a Child of 3½ years"; and "Congenital Hypertrophic Stenosis of the Pylorus and its Medical Treatment."

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The British Medical Journal, April the 9th, 1910:

We regret to record the death, on Easter Sunday, of Dr. George Carpenter, of Welbeck Street and the Queen's Hospital, Hackney, in the fifty-first year of his age. It took place suddenly, and was due to cerebral hæmorrhage. He was the eldest son of the late Dr. William Carpenter, and received his general education at King's College School. His medical studies he pursued partly at St. Thomas's Hospital, partly at Guy's Hospital. He was Prosector at the Royal College of Surgeons, and in 1885 became M.R.C.S. Eng. and L.S.A. In the following year he graduated M.B. at the University of London. He received the M.D. degree four years later, and meantime had been admitted a member of the Royal College of Physicians. On his becoming qualified, chance first led him in the direction of lunacy work, but after holding for a time an appointment at a large asylum in the provinces he returned to London and joined the Evelina Hospital as Resident Medical Officer. Thus began his connection with the department of medicine to which his professional energies were afterwards almost entirely devoted. The Evelina Hospital he served in turn as Resident Medical Officer, Registrar, Chloroformist, and Physician, and at the time of his death was Physician to the Queen's Hospital, Hackney, an institution likewise occupied with the care of children. He also took considerable interest in ophthalmology. He was a frequent attendant at meetings of professional societies, among those to which he belonged and to whose publications he contributed being the Société de Pédiatrie at Paris and the Société Française d'Ophthalmologie, while in the affairs of the Society for the Study of Disease in Children he played a specially active part, serving it as Honorary Secretary for several years, and later as Chairman of Council and Editor of its 'Reports.' Of this Society in its present guise—a section of the Royal Society of Medicine—he was President at the time of death. In the course of his career Dr. Carpenter contributed largely to current literature; he was also author of several books, nearly all his writings relating more or less exclusively to his favourite branch of medicine. His earliest paper dealt with the incubation period of German measles, and his last notable publication—The Wightman Lecture of 1909—with congenital heart disease. He was, too, the founder, as also the editor, of the *BRITISH JOURNAL OF CHILDREN'S DISEASES*, and at one time took part in editing an Anglo-American journal named 'Pediatrics.'

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FROM ROBERT EVAN ADLARD :

"It was my privilege to see much of Dr. George Carpenter during the past ten years—the period of his editorship of the 'Reports' and of this JOURNAL.

"The amount of energy he put into his work was amazing, and his thoroughness and care with regard to the smallest detail was admirable.

"From the piles of papers that bestrewed his desk he could always dig out anything he needed. Most people would have been bewildered by the unsorted mass. He had a system and method of his own which baffled an onlooker. Interruptions never seemed to disturb the train of his thought. He would pick up a dropped subject exactly where it had been broken and pursue it in the original strain, even after a long interval, without the least apparent effort. The telephone had no terrors for him.

"He loved criticism and to hear others' views. He was ever ready to give of his best and to receive with gratitude the smallest help from those who endeavoured to lighten his literary labours.

"Voracious as a worker he was equally strenuous at exercise. Until motor dust on the country roads caused him to give up in disgust the use of his favourite wire steed, long-distance cycling filled the greater part of his leisure time. As soon as he was restored to strength, after his severe illness of six years ago, he commenced to ride again. Among his longest one-day runs were those to Birmingham and from Bristol, when the meetings of the Children's Society were held in those cities; on the latter occasion he covered one hundred and fifty miles, dining at Dorking on his way home to Welbeck Street. Cycling done with, he devoted his attention more fully to photography, tramping with heavy camera from early morn to dewy eve. His portfolios testify to his skill and patience. The large collection of pictures that he made on holidays in Scotland and in Holland afford a wealth of pleasure. A great heart has passed away. His memory will live long with his friends."

DR. JAMES BURNET writes :

"Dr. George Carpenter is dead. It is hard, very hard to realise the stern fact. His kindly heart has gone to its rest. No man was ever more sincere, more resolute of purpose, more generous in nature, more devoted to work, than he. His over-zeal was sometimes misunderstood by those who knew him least; by those who knew and loved him best it stimulated and made enthusiastic. His presence always served to cheer, his smile brought sunshine where-

ever it reached. A noble soul was his, broad-minded and free from that narrowness which is born of ignorance of the world and of self-sufficiency. None was more free from the selfishness of the bigot than Dr. Carpenter.

"The last time we saw him was on the occasion of his visit to the northern capital, when he presided over the provincial meeting of The Society for the Study of Disease in Children. He was chairman at the dinner in the evening, and charmed everyone present by his genial wit and rare, good-natured humour.

"And so he has passed away. No one but those who knew Dr. Carpenter intimately can fully understand what a loss his death has caused. It leaves a large gap in many a friendly heart which will not readily be filled up. Others may speak of his work and of his contributions to pediatric science, but we can only now refer to him as a friend, loyal and true under all circumstances. He was a giant among men, and yet undemonstrative, unassuming to a degree. His place is empty; the old familiar doorstep at 12, Welbeck Street will feel his tread no more, for the master has crossed the threshold for ever and entered into his everlasting rest. Noble heart, rest undisturbed till the shadows of the night have given place to the dawn of the great eternal morning."

Dr. EDMUND CAUTLEY writes :

"I made Dr. Carpenter's acquaintance in 1900 in connection with the formation of The Society for the Study of Disease in Children, and have been brought into intimate contact with him since that date. One of his greatest charms was his enthusiasm in the cause for which he lived, namely, the advancement of the study of children's ailments. For this no work and no trouble was too great. The generosity of his criticisms on those who in any way opposed his schemes was a striking and amiable feature in his character. Like most enthusiasts he was unable to realise that personal questions could sometimes enter into such opposition. What Carpenter thought beneficial for the Society and the advancement of his special line of practice he warmly advocated, never considering in the least whether it might or might not be to his own advantage. Another of his charms was the readiness with which he would assist his friends in their work, often refusing to accept the fee, although he had been put to considerable trouble and expense, if he thought his colleague wanted it more than he did. He was a warm-hearted, good-natured man, whose true worth could only be accurately gauged by those intimately brought into contact with him. Had he lived he would

undoubtedly have continued to add to our knowledge of medicine out of the wealth of material which he had accumulated. To medicine, and even more to his personal friends, his premature end is a great loss, and leaves a blank which will never be filled."

Dr. J. PORTER PARKINSON writes :

"I first made the acquaintance of Dr. George Carpenter when in 1900 The Society for the Study of Disease in Children was inaugurated. Though not one of the originators of this Society, he took from the first the greatest interest in it, and was one of its first Honorary Secretaries. When in 1903 Dr. George Carpenter was appointed to the post of Assistant Physician at the North-Eastern (now Queen's) Hospital for Children, I naturally became more closely associated with him. It was impossible not to recognise his whole-hearted devotion to his work, and the enthusiastic way in which he carried it out. Though keen on the scientific aspect of his cases, he never lost that sympathy and kindness which is never more appreciated than by the young; and the gentleness of his manner, despite a rugged exterior, I am sure won his way to many an infant heart. Straightforwardness was one of Dr. Carpenter's most obvious characteristics, and there was no one whose denunciation of double dealing was more emphatic.

"In Dr. Carpenter's unexpected death the Queen's Hospital for Children has lost a good friend and an able physician, whose work there will be long remembered, and there is no one who regrets the absence of his cheery presence and breezy personality more than myself.

"Others will write of the strenuous work done by Dr. Carpenter for the welfare of The Society for the Study of Disease in Children, of whose reports he was for eight years the Editor; for the *BRITISH JOURNAL OF CHILDREN'S DISEASES*, which he founded and edited during the past six years, and of the immense amount of literary and other work which he carried on in spite of uncertain health. I have only spoken of him as I knew him, and I feel I have lost a sincere friend and a valued colleague."

Mr. SYDNEY STEPHENSON writes :

"Gladly, and yet with sorrow, I accede to the request to pay a tribute to the memory of my dear friend, George Carpenter, whose death occurred with dramatic suddenness from cerebral hæmorrhage, on Easter Sunday, at his mother's residence at Waddon, Surrey, in his fifty-first year. The event was altogether unexpected. I had seen him but a day or two before, when he appeared to be in his

usual good spirits. But on March the 27th he complained of his legs, tried to rise, then fell backwards, exclaiming, 'It is cerebral hæmorrhage,' and after a brief period of unconsciousness, left the world the poorer by his loss. Thus died an accomplished physician, a competent writer, a most industrious man, and one of the most loyal men it has ever been my good fortune to know. He was buried amid beautiful surroundings at All Saints' Church, Sandstead, Surrey, on March the 31st. I had the honour of officially representing the Council of the Section for the Study of Disease in Children of the Royal Society of Medicine at the funeral, and of placing a beautiful wreath sent by the Section upon poor George's grave.

"My acquaintance with George Carpenter dated from the days when we were boys together at Epsom College. For many years I had lost sight of him, and when I next came across him he was living in Welbeck Street, and was physician to the Evelina Hospital, where he had formerly been resident medical officer. From that day to this we have been in close touch. A week has seldom passed without our meeting. In 1900 the founding of The Society for the Study of Disease in Children brought us into closer contact than ever. Carpenter's enthusiasm was one of the many bright points attending the inauguration of that useful and successful Society. A small group of men, some of whom, including Carpenter, have, alas! since joined the majority, were among the leading spirits. A. Ernest Sansom and Henry Ashby have left us; but Alfred H. Tubby, David B. Lees, George A. Sutherland, Clement Lucas, and some others are still with us. Carpenter took from the first a prominent part in the management of the Society, became secretary in the second year of its existence, and edited the eight volumes of 'Reports,' which were published until amalgamation with the Royal Society of Medicine in the year 1908. Those eight volumes, crammed as they were with valuable material, represented a vast amount of work on Carpenter's part, and I think he was prouder of them than of anything else he had accomplished in the course of his strenuous life. They form, indeed, a worthy monument to his industry.

"Carpenter's was, indeed, a complex character. Sensitive to a degree, he sometimes imagined a slight where none was intended. He was literally one of those men who 'wear their heart upon their sleeves for jays to peck at.' But if quick to resent, he was equally quick to forgive. One pleasant word and he was at any man's call. His intense loyalty to friends was a striking feature of his

character. He possessed a homely mother-wit, which he could employ on occasions with telling effect, and he had the British quality of being able to speak out his mind when necessary. Quick, tempestuous, and yet withal of a most affectionate and charitable disposition, George Carpenter will be sadly missed by friends and patients alike, many of whom, including myself, owe more to his skill and loving-kindness than they can ever hope to repay. May his loyal and tender soul rest in peace! Good-bye, dear George Carpenter."

Mr. ALFRED H. TUBBY writes:

"Very many mourn the loss of Dr. George Carpenter at the comparatively early age of 50 years, in the fulness of his activities and in the maturity of his powers. When the Sub-Editors of this JOURNAL asked me, amongst other friends, to contribute a few notes of personal recollections, I felt myself highly privileged to accede to their request.

"George Carpenter and I came closely into contact when I was elected, in 1893, to the staff of the Evelina Hospital for Children, of which he was then a member. I had known him previously, but slightly, when he was at Guy's, and at the time he was Medical Registrar at the Evelina. I was much attracted by his breezy and genial personality, and the more intimate contact of collegueship proved a great source of pleasure to me.

"He was one of the finest clinicians of his day, and he possessed, what is not always the case, a thorough knowledge of physical and clinical signs. As he used to say, 'There are your physical signs, and you cannot go wrong in your diagnosis.' The pains he took in, and the care he bestowed upon, the examination of his patients were, I venture to think, almost unparalleled. At no time was he content merely to examine the apparent site of the disease, but whenever circumstances permitted he would have the child stripped and go systematically into every detail, so that he always treated 'patients' and not cases. We cannot recall a single instance of a patient under his care in whom a lesion had been overlooked by him, and was discovered subsequently by another observer. In addition to an infinite capacity for taking pains, he was gifted with clinical insight and a logical habit of mind. It necessarily followed that he gradually built up for himself a reputation second to none in that special branch of medicine, the diseases of children. Happily he was one of those very thorough people who take copious notes of observations and impressions of a patient at the time. It is to be hoped

that they may be published, as they constitute a mine of clinical information and it would be a great pity for them to be lost. I venture to think that a small volume containing a selection of notes from his case-books will prove to be that form of memorial which he would most have desired.

"As a colleague George Carpenter was ever loyal and true. He expressed his views with a frankness and outspokenness, which were always accompanied by the saving grace of humour, and he endeavoured to secure an unanimous expression of opinion from his medical colleagues on all occasions.

"It was especially as a writer that he shone. His style was clear and concise, the English he wrote graphic and accurate, happy in simile, and apposite in illustration. The obituary notices of his friends A. E. Sansom and Henry Ashby are perhaps the best examples of his power of delineating in a few sentences the character and the appearance of a man and of conveying to his readers a striking impression of a personality. We quote two examples, one referring to A. E. Sansom and the other to Henry Ashby. Of the former, Carpenter said: 'Sansom not only wrote about hearts medically, he was himself a man of heart, and he won hearts. . . . Neat and quiet in his attire, gentle-mannered and of frail-looking physique, he literally brimmed over with geniality and goodness of heart.' Of the latter he wrote: 'A man of strong personality—fine Henry Ashby; not only was he fine in intellect, but fine in physique, for he stood over six feet in his stockings and was broad in proportion. No 'stove-pipe' hat encircled his brow, or frock-coat—the modern conventional doctor's get up—marred his comfort. . . . No tight boots imprisoned his strong feet; a simple crucial incision by his own hand through the leather of his boot over a bunion displayed his common-sense methods and his total disregard for the puerile criticism of his neighbours. . . . His sympathy with children and his exquisite gentleness in handling them, enabled him to make with care the thorough examination which was his invariable custom.'

"George Carpenter made many contributions to medical journals, and they were stamped by an originality the outcome of a vast clinical experience. He wrote a small volume on 'Syphilis in Children' and another on 'Congenital Affections of the Heart,' and he chose the latter subject as the theme of his Wightman Lecture. It was felt by many that he was one of the few men who could write an authoritative and systematic treatise on the medical diseases of childhood, and we know that on two occasions he commenced to

do so. But the magnitude of the work and the calls upon his time prevented him carrying out his intentions, greatly to the regret of his friends and colleagues.

“For the last eight years of his life he devoted all the energy he could spare from routine work to the welfare of the newly founded Society for the Study of Disease in Children. Almost one of the founders, and certainly amongst its earliest members, his interest in it never flagged. He threw himself into its work from the very commencement with greatest zeal, and rendered it yeoman service. To him no small measure of its rapid success was due. He succeeded Mr. Sydney Stephenson as Hon. Secretary, and subsequently was elected Chairman of Council. Upon him largely fell the responsibility of conducting the negotiations for the amalgamation of the Society with the Royal Society of Medicine. At the time of his death he was still in office. For eight years he edited the ‘Reports of The Society for the Study of Disease in Children,’ and they will by their excellence constitute a lasting monument to him. He was a most regular attendant at the Society, and always made a point of being at the country meetings, where his social qualities rendered him most welcome. Many country members were, to our knowledge, induced to join the Society by his persuasive eloquence. In my recollection, two meetings, to the success of which Carpenter largely contributed, stand pre-eminent, those at Liverpool and Edinburgh. As the founder and editor of this JOURNAL he did a great deal to stimulate and sustain the interest in that branch of medical work which he had so much at heart.

“In personal appearance he was short, broad, and thick-set, with a face and head expressive of intellectual power, while the eyes behind the gold spectacles twinkled with humour. His hair stood upright, and he had a curious and striking habit of running his fingers through it whenever he was interested or profoundly moved. Full of fun, he was an excellent *raconteur* and cheery to a degree. Though not generally fluent in speech, yet when carried away by a subject, such as the welfare of The Society for the Study of Disease in Children, he became almost an orator.

“My own recollections of him are very vivid. He was keen on sport, and for some years shared a most excellent shooting in Suffolk with some friends. It was my privilege to be invited, and I was much impressed by his skill. Despite the facts that he was astigmatic and hypermetropic, and that his left eye was his master-eye, he showed himself to be a very good shot with a specially fitted cross-stock gun. We remember seeing him take his

stand in a drive and bring down rocketting pheasants in great style. When he was laid low by a serious illness six years ago I was attending him. Calling upon him one day, I found him in bed, very weak, but convalescent, engaged in polishing the locks of his guns. It was during the shooting season, and he told me that if he could not shoot he could at least look at his guns and see that they were all in order. The one particular in which his memory will be dear to many is the loyalty of his friendship. It was stamped by a thoroughness and a chivalry which are all too rare. His friends knew him as 'George,' and perhaps the most striking proof of the esteem and respect in which they held him was the value they placed upon his opinion in the time of illness and the eagerness with which they sought his advice and help both for themselves and their families. He invariably gained the confidence and affection of children, and placed them at their ease with some jocular remark or by displaying an interest in what they were doing. He had a profound knowledge of the psychology of childhood, and knew exactly how to deal with children. When Carpenter paid you a professional visit there was nothing perfunctory about it. He would often stay, despite the fulness of his day and the calls upon his time, and chat for an hour or more, pouring out racy anecdotes, and leaving his patient in a hopeful and happy frame of mind. It was this way of his which perhaps more than any other endeared him to his friends. He was ever ready to come at any hour of the day or night at personal inconvenience. The last time we met was at the Post-Graduate College just as he was about to deliver a lecture, and I remarked to him, 'Well, George, it is a long time since I have seen you, but I expect you have been very busy.' 'Ah,' he said, 'but am I not on your doorstep whenever you want me?' At that time the effects of the incessant strain of work were becoming very noticeable in him. The serious illness of six years ago left a deep mark, and he never seemed to recover thoroughly. The brightness and vivacity were there, but they evidently required an effort on his part. In many directions he was a man of great will-power, and the steadfast way in which he set himself to overcome the effects of his illness was most striking. Previously to it he had been a great smoker, but, because he thought it harmful, he cut himself off tobacco absolutely, and was able to see his friends smoke with apparent equanimity. He has, however, told me sometimes of the effort it cost him to deny himself the solace of the 'weed.'

"The death of George Carpenter leaves in the medical world and

the hearts of his friends a gap which cannot be filled. His reputation has been justly described as world-wide. It is our profound regret that, being thus untimely cut off, he had not the opportunity of reaping the rewards of those who labour. His friends, while they deplore his loss, will retain bright and happy memories of him. He himself, all unwittingly and all too recently, wrote his own panegyric: 'And disciples of the art of healing in the future will gather that we, too, had our trials as well as our triumphs. They will understand that, once living men like themselves, we too have passed across the world's stage, and that though our bodies are dust, our spirits will speak to them . . . encouraging them to persevere and not to be daunted when the cause is noble, and to regard opposition and difficulties of research as a stimulus to increased effort.' "

Original Articles.

X-RAY PHOTOGRAPHS FROM A BOY, AGED THREE YEARS, THE SUBJECT OF HABITUAL CONSTIPATION.

By E. I. SPRIGGS, M.D. and H. F. L. HUGO, M.B.

THE boy has been constipated since birth, the bowels being only opened with injections, except for a few periods of diarrhœa, which have occurred about every six months. He has vomited occasionally, especially after purgatives have been given in vain. His appetite has been poor. A sister, aged 7 months, is also constipated, and a brother died at the age of 10 months of diarrhœa, after some trouble with the bowels. Neither parent is subject to constipation. In the hospital, syrup of senna, cascara sagrada, magnesium sulphate, and liquorice powder were ineffectual; an enema usually produced a result. Nothing abnormal was found on examination of the abdomen and the rectum. The photographs (by Mr. Hugo) show the bismuth (given with bread and milk) in the small intestines and cæcum in six hours; in the ascending colon and the whole of the transverse colon in twelve hours (Fig. 1); the descending colon in eighteen hours (Fig. 2); the hepatic flexure, transverse colon, and sigmoid in thirty hours; the descending colon and sigmoid in forty-two hours (Fig. 3); the sigmoid entirely in fifty-four hours. The bowels were

not opened during the observations. Comparing these times with those given by Dr. Hertz, it appears that the delay in the passage



L R
FIG. 1.—After twelve hours.

of pure residue took place almost entirely in the descending colon and the sigmoid flexure, probably chiefly the latter. Most of the colon was traversed in a normal time. After the photographs were



L R
FIG. 2.—After eighteen hours.

taken he was given a diet of wholemeal bread, porridge, treacle, fruit, butter, dripping, greens, potatoes, meat, and fish, with plenty of fluid. For the first three days of this diet enemas were used, on the fourth the bowels were open naturally, and on the three

succeeding days of his stay in hospital, which was brought to an end by the occurrence of infectious disease.

It is generally held that a "stimulating" and bulky diet should be prescribed when constipation is due to delay in the passage of food residues through the cæcum and the ascending and trans-



L R
FIG. 3.—After forty-two hours.

verse colon, but that when it is due to delay in the sigmoid flexure, owing to the sigmoid or rectal reflex not having been acquired, or having been lost, that dietetic treatment is not indicated.

The result of treatment in this case shows that a suitable diet is also of advantage in those cases of constipation in which food passes through the small intestine and the major part of the large intestine at a proper rate.

SOME THOUGHTS ON THE CONTROL OF ZYMOTIC ENTERITIS.

By JOHN ALLAN, M.D., D.P.H.

(*Concluded from p. 123.*)

WITH some knowledge regarding the ætiology one is able to understand in what directions preventive measures can best be applied. In my opinion the problem is not one that should be dealt with by the public health authorities only. Much might be done and should be done by general practitioners and by the medical staffs of children's hospitals, and these gentlemen should co-operate with the medical officer of health of the district with a view to lessening the prevalence of, or even of stamping out, this disease.

There are certain definite directions in which we may endeavour to deal with the problem, and the difficulty is to allocate to any one measure the chief importance. In view of recent research the premier place should, I think, be given to the fly question. Every endeavour should be made to prevent fly contamination of food. A relentless war should be waged on these pests with a view to diminishing their numbers. Dr. Glover, in his paper already referred to, has rightly pointed out that the fly has undoubtedly a certain utility in nature, and that it is not consistent with the welfare of the community that we should work for the total abolition of this insect. All food should be carefully protected from flies. Milk should not be kept in uncovered jugs; sugar, butter, etc., should not be allowed to lie all day on the table, and all articles of diet should be stored in some place to which flies have not access. In older houses the larder is often built in most unsuitable situations, and in the building of new houses it is to be hoped that attention will be given to the scientific construction of this important apartment. Nash (16) believes that the larder should be a separate room, preferably of northern aspect, with a window opening to the external air. The window should be protected from flies by wire gauze. The old-fashioned meat-safe, placed in the open air, and found in many older houses, is to be preferred to a larder within the house. Nash, in his article in the 'Journal of Hygiene,' expresses the hope that it will soon be made illegal to have fly-breeding accumulations within a certain prescribed distance of any dwelling-house. As for brickfields or other places where decaying or organic matter is deposited in quantity, such businesses should be under strict regulations as to such deposits, and they should be far removed from inhabited houses. He discusses how this might be hygienically and economically accomplished. There is certainly much to be said in favour of these recommendations, and it is to be hoped that legislative measures to deal with them will be brought before Parliament. The sanitation of streets should receive attention. The flushing of streets with water to lay the dust is important, and in towns where this is practised much benefit to the health of the community has resulted.

Education of the public is very important. This can be effected in various ways. With the adoption of the Notification of Births Act, 1907, by a local authority, one or more lady health visitors are appointed, and these ladies in the course of their visitations can distribute much valuable knowledge, especially with regard to the feeding and hygiene of infants. They may also be instrumental in bringing to the notice of the health officials the presence of

insanitary conditions in the house. Much more can be done by this means than by the distribution of printed leaflets, although this latter method must not be neglected. The matter in these leaflets should be expressed as succinctly and in as simple language as possible, otherwise the leaflets will probably never be read. It might be of advantage to issue the information in a more attractive manner and in a form that would be more likely to command attention. A hint might be taken from the vendors of patent proprietary medicines, as some of the success in pushing the sales of such must be attributed to the way in which the attention of the public is solicited. The hints regarding the prevention of summer diarrhoea might be given in a little book containing pictures of the chief places of interest in the district, with brief notes regarding such; or in a small pamphlet containing portraits with short character sketches of eminent workers in various spheres of life, and so on. The more ingenious and striking the production the greater the likelihood of its being read. Pictorial cards have been used in some places for distributing knowledge regarding consumption. Why not also employ them in this disease? An excellent plan is in vogue in St. Helens, where information regarding the feeding of infants is given on a 'Baby Calendar.' This calendar is sent to every woman on the birth of a child. The instructions are simply and clearly put, and the calendar is not only useful, but is also ornamental, the pictorial illustration being quite artistic. Dr. John Buchan, the medical officer of health, is sceptical of the value of printed matter unless it be of a striking character, although he does not think that this medium of distributing knowledge should be neglected.

These leaflets should be distributed not only by public health officials, but also by medical men in general practice and by the staff at children's hospitals. District nurses, midwives, lady health visitors, and ladies engaged in charitable work might also assist in distributing such printed matter. The information, whether conveyed by leaflet or whether given verbally by the lady health visitor or other official, will cover certain definite ground. The chief points will relate to the danger of flies and to the importance of the hygienic care of infants. In view of the importance of flies as carriers of disease, suggested by recent research, some pointed remarks regarding the danger accruing to this pest might be made the subject of a brief opening homily. Attention should be drawn to the fact that during the warm months in summer and autumn the fly may breed in all places where filth accumulates, such as stable manure, excre-

ment of the privy, and decaying garbage in the ash-pit and back-yard; that the fly finds in these choice collections of decomposing filth nourishment to sustain life; that the fly is capable of carrying away on its legs and body some of this filth, and may likewise carry the germs of diseases; that the fly, coming from such places, may alight on food which thus may become contaminated. Then indications as to the best means of controlling the evil may be given. Householders should be advised to make use of fly-papers, etc., to catch the flies, to carefully protect all food, and especially milk, from the risk of contamination by flies, not to throw animal and vegetable refuse into their back yards, or put it into uncovered ash-bins or ash-pits, to prevent their children defæcating in the courts and alleys, and to remove any excreta at once, to see that drains, sinks, gullies, etc., do not become choked, and to frequently flush these with warm water to prevent nuisance, to keep their houses and outdoor premises clean, and so on. Dr. Hamer's (20) investigations would seem to indicate that windows should be kept closed, which, I think, is most unfortunate, as the close, stifling atmosphere thus produced in small houses cannot be good for the health of the infant. Dr. Glover (19), advises that when flies are numerous turpentine should be sprinkled on some dry cinders. Then instructions as to the feeding of infants should be included. It should be pointed out that breast-feeding is the ideal method for infants; that even if the mother cannot give the infant sufficient nourishment from the breast, it is much better to give the breast and bottle alternately than to rear the infant on the bottle only; and that the baby should not be weaned during the warm weather in summer and autumn. If feeding by hand is the only means available, then careful directions as to the preparation of the food should be given. It should be strongly urged that cow's milk suitably diluted according to the age of the infant is the best substitute for mother's milk, and the mother should be warned against the use of condensed milk and various patent foods. At the present time it is wise to advise that the milk should be boiled before being used. In view of the gross ignorance among a certain class as to infant-feeding, it is necessary to point out that no solid food, especially fried fish, fruit, etc., should be given to young infants. The baby should not have "just a taste of anything that is going." Advice as to the scrupulous cleanliness of bottles should be tendered. Only boat-shaped bottles with short nipples should be employed. The use of bottles with long tubes should be prohibited. I understand that in some places on the Continent the sale of these bottles is prohibited by law, a plan which might be

with advantage copied in our country. The long-tube bottle is a veritable death-trap, as it is most difficult to keep the tube clean, and if not clean it may contain millions of putrefactive organisms. It is of advantage to have two boat-shaped bottles in use and to employ them alternately. The bottle should be carefully cleansed after each meal, and the nipple should be turned inside-out and thoroughly scalded. Any milk left over should be rejected. The sale of that abomination the "dummy-teat" should be prohibited. It is liable to collect all sorts of filth, and is quite unnecessary for the successful rearing of children. The fly seems to relish the "dummy-teat" when moistened with saliva and milk, and if it is afterwards placed in the infant's mouth without its having been cleaned, then disastrous results may supervene.

Mothers should be advised to take the child into the open air as much as possible during the warm weather, and should be warned not to overclothe the child. To prevent the infant from flies when it is in the open air Dr. Glover advises the use of a meshed muslin cover over the face, especially when the child is asleep. Ostheiner (27), regarding summer diarrhœa in infants as due primarily to two causes—unclean food and heat—recommends, among other things, that in summer the infants should be bathed frequently and excess of clothing guarded against, and that they should be kept in the open air in the shade as much as possible.

It should be strongly urged that no case of diarrhœa during the summer should be neglected. Kerley (28) has shown that a useful prophylactic measure is the early recognition and prompt treatment of cases of epidemic diarrhœa—an important point that is frequently overlooked by parents and doctors. If an infant in the warm season has slight sickness and diarrhœa, and especially if the stools be green, medical advice should be sought without delay, and pending the arrival of the doctor the mother should give the infant nothing but boiled water which has been allowed to cool, and should on no account give the infant milk; or perhaps to avoid wounding the tender sensibilities of any who might view with alarm this starvation treatment, and who fail to realise that it is the very best thing for the infant in the majority of cases, it might be better to advise the administration of albumin-water in lieu of milk.

A case of zymotic enteritis having occurred in a house, the person in charge of the child should be instructed to take precautions to prevent any possibility of secondary cases. She should be warned not to leave soiled diapers lying about, but to place them in boiling water or some disinfectant, and always to carefully cleanse

her hands before preparing any food. Holt (29), referring to the proved contagiousness of dysenteric infection in infants, says that most probably infection occurs from the faeces, and therefore the stools should be disinfected and great care should be taken to prevent contamination of food or water by persons handling the child's napkins. Some local authorities are so convinced about this very likely source of infection that they offer to supply householders with disinfectant if they cannot afford to buy it. The disinfectant might also be used for pouring down drains, traps, etc., or for pouring over any small local accumulations which appear to be infested by flies, it, of course, being understood that such accumulations should be removed at the earliest possible moment.

The information in amplified form, such as given above, is best conveyed verbally. In printed form it has to be more concise, and at the end of my paper I give a sample of leaflet which I should suggest as suitable for distribution in connection with this disease. The more important points should be printed in large type and underlined, or may be printed in coloured type. A separate pamphlet on "The Care and Management of Infants," and containing fuller information regarding the feeding, clothing, and general hygiene of infants, is, as a rule, also issued.

Education by popular lectures, and the teaching of senior girls in all schools in matters relating especially to infant hygiene must not be forgotten. The instruction of these older school-girls must be considered all the more urgent when one recollects that on leaving school they are, in many instances, given the charge of their baby brothers or sisters and, perhaps, of some poor little infant who has been "farmed out." It has also to be remembered that in crowded districts where zymotic enteritis is so prevalent, many of these girls undertake the duties of maternity at an early age. In connection with "farmed out" infants, I should like to say that the laws relating to such should be rigidly enforced. Under the Infant Life Protection Act of 1897, there were certain regulations drawn up with a view to the protection of these unfortunate infants, but in many districts the Act was practically a dead letter. Under the Children's Act of 1908 some of the regulations have been made more stringent, and it is to be hoped that those in authority will faithfully carry out the duties imposed on them, and that they will not only see that the regulations are well maintained in their district, but that they will also punish severely those who actively or passively countenance any infringement of the Act. A considerable percentage of these "farmed out" infants are the infants of women employed in factories.

A woman who works in a factory is forbidden to return to her employment for a month after parturition. This period is far too short. It is a direct incentive for the woman to rear the baby on the bottle, for if she purposes to return to work in a month's time she naturally does not think it worth while to suckle her child for a month. If the time were extended to three months (or better, six months), far more of the women would nurse their infants at the breast, and not only would the infants be better protected during these early months of life, but their chances of resistance at a later period would be enhanced. The number of lady inspectors appointed under the Factory and Workshops Act is too small, and however energetic these ladies may be in carrying out their duties, there cannot be adequate control of women workers in factories at the present time. It would also be of advantage if a month or two of rest from work in factories prior to confinement were enforced by law.

There should be rigid supervision of the milk traffic. It is probably true that the milk becomes contaminated in the house in many instances, but it is also true that greater care might be exercised in its collection and distribution. Milk as secreted by the healthy animal is sterile, and it is due entirely to carelessness that contamination takes place. It is impossible to give in detail the various ways by which contamination might be prevented, and I shall merely state in general terms that by the better housing and care of animals, by hygienic milking and subsequent storing of the milk, and by greater care in transit, a pure bacteria-free * milk could be delivered to householders. The precautions necessary to prevent contamination in the house have been already indicated. I am sufficiently optimistic to believe that such is quite within practical politics, and that by education and legislation this ideal could be accomplished. I cannot enter into a discussion on the pros and cons of the various methods for minimising the risk of contaminated milk, but it must be admitted that at the present time some devices of this nature are regrettable necessities. I indicated above that in summer milk could only be safely used for infants after being boiled, so great was the probability of contamination having occurred. I may also say that I consider pasteurised milk objectionable for the reason that it gives to many careless persons a sense of false security. They believe that if the milk has been so treated

* This, of course, only refers to freedom from harmful and dangerous bacteria. It does not imply absence from the milk of such bacilli as lactic acid, enzyme-forming, etc., which are normally present.

it will keep fresh for some days. Pasteurisation kills the lactic acid bacilli, but not spore-bearing organisms. These develop, and in twenty-four hours the milk may be swarming with millions of dangerous organisms, although the milk appears quite fresh and has no putrefactive odour. Any of the milk not used up in twenty-four hours should be rejected. Dr. George F. Still (30) some years ago expressed the opinion that in dirty crowded tenements, with little possibility of proper storage, and of less intelligent care, condensed milk is preferable to cow's milk during the summer months when diarrhœa is prevalent. I, however, agree with Dr. Nash (6) in the criticism which he offers, viz. that such can only hold good (1) provided that the contents of the tin are used up directly, (2) that flies are not numerous in the house, or (3) that if flies are numerous, the condensed milk is properly protected from them. An attempt has been made to show that the use of dried milk may be an excellent prophylactic against zymotic enteritis. Dr. Minett (31) a year or two ago investigated the matter and chronicled favourable results, but the number of cases was too small to justify too definite conclusions. Dr. C. K. Millard (32), medical officer of health for Leicester, has recently enthusiastically extolled the virtues of dried milk as a food for infants, not, however, especially in relation to summer diarrhœa. It seems to me that a pure and sterile product might thus be got. The following quotation from a recent able paper on "Milk Supplies for Large Towns," by Dr. John Robertson (33), medical officer of health for Birmingham, is very significant: "In the city of Birmingham and in Sheffield practically the whole of the deaths from infants from summer diarrhœa occur among that half of the population living in the smallest dwelling houses. In Birmingham this is very marked from year to year. We have one half of the population practically without a single death, while among the other half during the hot summers a thousand or more deaths occur. To a very large extent the same milk supply goes to both groups of houses, so that, practically speaking, it is the careful handling and storing of the milk in the dwelling-house which prevents these deaths in the better class of dwellings." Dr. Robertson also thinks that every encouragement and support should be given to those purveyors of milk who endeavour to supply clean, pure milk, and the others would soon have to come into line. There is not the slightest doubt that there is room for much improvement in various aspects of the milk traffic. I should like to see an extensive trial given to feeding infants in one of our crowded cities with pure uncontaminated and natural milk, which in my opinion is the

best substitute for breast-feeding. I am certain there would then be a diminution of summer diarrhœa.

Again, any measures that aim at securing greater cleanliness and better sanitary conditions in the homes and surroundings of the people would do much in preventing epidemic diarrhœa. Privies and tub-closets should be abolished. If that is absolutely impossible then these should be as far as convenient from the house, and should be well away from any place where food is stored. Every effort should be made to keep them in good order, and precautions taken to prevent flies entering and leaving them. The satisfactory results that have followed the introduction of the water-carriage system of sewage disposal in many places is sufficient justification for advising its universal adoption. Large ash-pits should be prohibited. If these were kept for the reception of ashes only there could be little objection to them, but when one remembers that animal and vegetable refuse are thrown into them and that they may only be emptied at long intervals, it is easily understood that they may create considerable nuisance and may attract flies. Small, movable ash-bins with tight-fitting lids, which should be emptied daily, are much to be preferred. There is really no necessity for decomposing refuse to be placed in them. That should all be burnt, and by so doing householders might economise in their fuel. The backyards of houses should be paved with impervious material, and in hot, dry weather they should be frequently flushed. Overcrowding should be prevented and hopelessly insanitary buildings should be pulled down. In general, anything which tends towards better sanitation will assist us in our efforts to cope with zymotic enteritis.

As a very important weapon for the control of epidemic diarrhœa, I should advise that the disease be added to the list of notifiable diseases. I am well aware that such a suggestion is likely to raise a great outcry, and would probably be met with vigorous opposition, but I am convinced that much good would follow if this recommendation were adopted. So far as I know any such course has been tried in one place only, namely, Woolwich, where modified voluntary notification has been in vogue since 1905, and in an interesting report issued in 1909, Dr. Sidney Davies (34), the medical officer of health, relates his experiences. Notification was voluntary, and was only for the three summer months. During the four years 844 notifications were received, but Dr. Davies believes that only about half the cases were notified. On analysis of the cases several important points are made out. The comparative immunity of breast-fed infants is strikingly demonstrated, and babies reared on

depôt milk compared favourably with those fed by hand or other milk, though the numbers were too small to lay much stress on this fact. About 50 per cent. of the infants were weaned before the proper time. Some of the facts suggested personal infection in the family, and there was also evidence pointing to the spread of the disease from one house to another. Dr. Davies shows that, while in the years 1901-1904 the diarrhœal death-rate in Woolwich was higher than that in London, in the four years when there was voluntary notification the mortality-rate was markedly lower in his district. Though he does not claim for notification alone this satisfactory result, he believes that it has played an important part in reducing the death-rate. He advises that notification be continued, and that the time be extended to include the period June to October.

I should like to see this experiment tried in many large towns and cities, but I would go further and suggest that the notification should be compulsory. Voluntary notification, though better than no notification at all, is only a half measure. It depends entirely for its success on the willing and cordial co-operation of the practitioners in the district, and it requires an enthusiastic medical officer of health of dominating personality to carry it out efficiently.

I do not advocate the disease being made notifiable because it is infectious, in the same sense that diphtheria, let us say, is infectious, but because, by the knowledge so obtained, the medical officer of health would be able to exercise better control. At the present time he has only the knowledge of the cases which have been certified as having died from diarrhœal diseases, and by the time these returns reach his office the most effective period of control has passed. It has to be remembered that those who succumb constitute only a small proportion of those who are attacked, and one must also recollect that an attack of zymotic enteritis, though not fatal, may so cripple the infant that in the future he or she is more prone to develop other diseases—in other words, the indirect effects are of grave import. What advantages, it may be asked, would be likely to accrue to notification? In the first place the medical officer of health would obtain early knowledge of the distribution of the disease, and if any suspicious grouping were apparent, minute investigations could be instituted with a view to ascertaining the probable cause, *e.g.* fly-breeding places in the neighbourhood. The medical officer of health would also become cognisant of first cases, and by putting the necessary machinery in motion he might be able to reduce the number attacked, for I feel sure that some of the cases

in the immediate neighbourhood are secondary ones. I think it would also be an excellent plan if in the crowded dwellings in the slums, where from carelessness or ignorance proper precautions could not, or would not, be adopted, these first cases were received and treated in hospital. Then the epidemiological officer, when making his inquiries, would be able to note if there were any sanitary defects in the house or adjoining premises. Again, advice could be tendered as to suitable precautions to be taken to prevent its spread, and educative leaflets left at the house. There does not seem to be any call for disinfection of the rooms as in the other infectious diseases, but, as hinted above, the person in charge of the infant should be warned not to allow soiled diapers to lie about, and after removing the napkin to carefully wash her hands before preparing any food. The sanitary authorities might have brought to their notice necessitous cases, and might be able, through the medium of some charitable agency, to afford temporary assistance.

The notification I advise is chiefly for the purpose of gaining better control over the working class or unemployed population, among whose babies the disease is much more prevalent. Perhaps the chief objection put forward would be the expense necessary for the efficient working. Money would be required to pay for the notifications received, and most likely another inspector would have to be appointed, but it seems to me that the saving of life should be adequate recompense for any extra trouble and expense. Objection to notification on the ground of uncertainty of diagnosis could not be seriously put forward because a typical case of zymotic enteritis presents no difficulty of diagnosis. It might be argued that the infective character of the disease is not definitely established, that ordinary preventive measures are not required as in the other infectious diseases, and that it would be a mistake to class it with the other notifiable diseases, but I do not admit that these are strong points against notification. It might be objected that there would be interference with the medical attendant and friction might arise. I should not propose that the public health authorities interfere in any case where a medical man is in attendance, and where intimation is given that assistance is not desired. I am confident, however, that medical practitioners themselves would cordially welcome any assistance from the medical officer of health, and would heartily co-operate in any efforts to deal with this scourge of infant life.

Such, then, are some of the methods by which epidemic diarrhœa might be prevented, and I venture to say that they are far more

important than the actual dietetic or drug treatment employed in the disease. It may be that the disease will never be entirely abolished, certainly not for many years to come, but I am convinced that by preventive measures the lives of many thousands of infants might be saved, and in view of our steadily decreasing birth-rate this merits close consideration. It is not a matter for congratulation to note that the diarrhœal death-rate among infants has not diminished like that of some of the other infantile diseases, and this should be a direct incentive to everyone to make strenuous efforts to rectify this unfortunate state of affairs. The continued prevalence of the disease may to some extent be due to ignorance, and it is the duty of the educated to do everything in their power by advice, example, and help to convert the uneducated. By adequate preventive measures one might hope not only to greatly diminished the mortality from zymotic enteritis, but also to considerably lessen the attack-rate, and thus indirectly permit many infants to continue their earlier struggles for existence with enhanced premiums, and later to allow them to enter upon a healthier, happier childhood, which in time would tend towards the development of a more robust race.

PREVENTION OF EPIDEMIC (SUMMER) DIARRHŒA.

Each year during the hot weather in summer and autumn a large number of infants are attacked by a serious disease called summer diarrhœa, and many of them die from this disease. The disease, though dangerous, can to a very large extent be prevented, and it is earnestly hoped that mothers will take precautions to save their babies' lives.

There is good reason to believe that the *common house-fly* is a very important agent in spreading the disease, and you are requested to make every effort to keep the fly out of your house. Remember that the fly feeds on, and breeds in, all sorts of decomposing filth, such as stable manure, decaying garbage, etc.; that it may carry away some of this filth on its legs and body, and may be covered with millions of death-producing germs; that if it afterwards settles on food, and especially milk, that will be contaminated, and it is very dangerous to give such polluted milk to your infants. Therefore use fly-papers in the warm season. Keep your windows closed, and do not allow your door to stand open all day. Store the milk in clean, covered dishes in some place to which flies have not access, and do not keep your food in any room near a privy, drain, etc. Burn all animal and vegetable refuse, such as fish-heads, bones,

tea-leaves, potato-parings, etc. *Do not* throw such refuse into your back-yard or place it in uncovered ash-bins. Keep your house and outdoor premises clean, and especially do not permit dust to collect in the apartment where your food is stored. Dust in every form is dangerous to health, and for removing it wet cleansing is preferable to dry. Do not allow sinks, drains, etc., to become choked. Report at once to a public health official any nuisance such as choked drain, and any manure-heap in the neighbourhood which is attracting large numbers of flies.

Bear in mind that the fly season is the diarrhœa season, and remember that absence of filth and dust means absence of flies.

BEWARE OF THE FLY.

Very few babies who are fed entirely from the breast die of this disease, and therefore you are strongly urged to suckle your infants at the breast. If you cannot give your child sufficient nourishment by this means do not take it off the breast. *It is far better to feed from the breast and by bottle alternately than to feed by bottle only.*

On no account wean your infant during the hot months of July, August, and September. If your breast-milk has become scanty, continue to give your infant this as much as possible and make good any deficiency by using cow's milk. Avoid giving condensed milk (especially the cheaper brands) and patent foods, and *never* feed your baby on *anything that is going*.

When cow's milk is employed the milk should be boiled when it comes into the house and kept in the coolest place. Keep the baby's bottle scrupulously clean, and reject at once any milk which smells sour. Use only boat-shaped bottles. *Never* employ bottles with long tubes, which are always dangerous. Thoroughly wash the feeding-bottle after each meal, and see that the nipple is turned inside out and well scalded.

Do not give your infant a "dummy teat" to suck.

Never neglect any case of diarrhœa, but obtain medical advice at once. Always stop giving milk, and until the doctor arrives give nothing but boiled water or white-of-egg water.

Try to *prevent any spread of the disease*. Never leave soiled napkins, etc., lying out, but place them in boiling water or disinfectant, and always carefully cleanse your hands before preparing any food. Take the infant daily for an outing in the open air and be careful not to overclothe the child.

MOTHERS, PROTECT YOUR INFANTS.

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Note.—Any who desire to go more deeply into the subject will find fuller references in the articles marked with an asterisk.

Société de Pédiatrie, Paris.

February the 15th, 1910.

A Case of Acute Encephalitis.—MM. GUINON and AINE showed a boy, aged $4\frac{1}{2}$ years, of robust but slightly rickety appearance, who, eight or ten days after a normal attack of measles, had several falls without loss of consciousness, pain, or vomiting. A month later he presented rigidity of all the limbs, but the nuchal region was normal. There was also a peculiar cerebral condition characterised by a kind of intellectual torpor without meningeal phenomena and without Kernig's sign. Ten days prior to the onset he was possessed of perfect intelligence. Little by little the symptoms improved, the incontinence of fæces disappeared, the mental condition became better, but the contractures remained. The symptoms resembled those of a cerebral sclerosis. Lumbar puncture drew off a clear fluid without pressure, containing some fibrinous threads, but no albuminous reaction or definite cytology. The fundi oculi were normal.

Treatment of Œdema and Sclerema in the New-Born.—M. HENRI DUFOUR noticed that since the use of impermeable silk to wrap up debilitated and premature infants from the neck to the feet he had observed no cases of either œdema or sclerema in his clinic. This simple and easy procedure seemed to constitute the best method of combating the frequent and rapid loss of heat in weaklings.

M. VARIOT thought that this method would have the effect of abolishing the incubator.

Malformation of the Brain; Death from Hydrocephalus.—MM. VARIOT, LONG, and ROUDINESCO described the case of a child apparently normal during the first two months of life and then attacked by a progressive hydrocephalus. The autopsy showed a marked degree of cerebral malformation, the hemispheres being mainly absent, the basal ganglia alone being seen; rudimentary frontal and occipital convolutions represented the remains of the vault. A woodcut is given in Bulletin No. 2.

Note on Tuberculous Arthropathy with Valvular Lesions.—M. BARBIER showed specimens from a child who had had the clinical appearance of rheumatic fever and who proved tuberculous. The girl, aged 15 years, was the subject of frequent arthralgic attacks with slight swelling and hydrarthrosis. He came under the author's notice when in his seventh attack. Auscultation gave signs of mitral and aortic incompetence and there was slight dulness at one apex. After leaving the hospital she returned five years later with more marked cardiac signs; cuti-reaction was negative. At the autopsy there were destructive lesions of both lungs, pericarditis with adhesions, and a vegetative endocarditis, the tuberculous nature of which was shown by inoculation. The author also related another case of a girl, aged 13 years, subject to frequent attacks of rheumatism and showing unmistakable signs of mitral incompetence. She was treated as being tuberculous and left the hospital much improved. The author thinks that a place must be reserved for tuberculosis in the ætiology of endocarditis.

Three Cases of Laryngostomy for Cicatricial Stenosis.—M. GUISEZ reported three cases operated on of children obliged to wear a tracheotomy tube for crico-tracheal cicatricial stenosis. This operation enabled them to do without the tube. It was performed for the first time by Killian and popularised by Sargnon, and consists in a section of the thyroid and cricoid cartilages and the resection of all cicatricial tissue; then, leaving the cavity widely open, progressive gum-elastic dilatation is practised.

VINCENT DICKINSON.

March the 15th, 1910.

Case of Ectopia Cordis.—M. VARIOT described this case, of which an illustration is given in Bulletin No. 3. The infant, a male, lived fifteen hours, and was the first-born of a young woman married ten months. No history of monstrosity in the family. A large red swelling occupied the centre of the thorax, which consisted of the heart without pericardium, the large vessels forming a pedicle.

Double Invagination of the Small Intestine Complicating Typhoid Fever in an Infant.—MM. LESNÉ and AÏNE related the case of an infant, aged 3 months, suffering from typhoid fever; there were no spots or enlarged spleen, diarrhoea and fever being the only symptoms. Sero-diagnosis delayed till fifteenth day. No blood in the stools; no abdominal swelling; death took place on the twenty-second day. The autopsy showed the double invagination, which caused no symptoms during life. There were inflamed Peyer's patches and enlarged mesenteric glands.

Flat Vascular Nævus of the Upper Limb.—MM. LEROUX and LABBÉ showed a girl, aged 26 months, the subject of a vascular nævus occupying the whole of the hand, becoming less marked the farther it was from the digital extremities. It existed on both sides, although the right alone showed any hypertrophy. A very slight degree of the same condition was found in the lower extremities, and the right limb seemed the larger. A nervous origin seemed probable. The mother had symmetrical numbness of the hands, especially of the right, without blueness, on waking in the morning or on getting tired at night.

Suffocation due to Hypertrophy of the Thymus.—MM. D'OELSCHITZ, PRAT, and BOISSEAU related this case of a child, aged 4 years, brought to the hospital for diphtheria, but whose symptoms were caused by hypertrophied thymus. A supra-sternal incision with ablation of part of the thymus gave rise to improvement for some minutes. In the presence of fresh symptoms of asphyxia tracheotomy was performed without any lasting benefit. Finally resection of the sternum was practised. Death took place after ten days. At the autopsy there was acute mediastinitis and pleurisy from infection by the trachea. The thymus completely surrounded the trachea.

Simplification of Tubage Instruments.—M. E. C. AVIRAGNET showed an instrument which rendered tubage easy and rapid (illustration). It somewhat resembles that of O'Dwyer, but differs from it in the absence of a propeller and extreme simplicity in fixing the stem on the handle.

Case of Oxycephalus with Optic Atrophy.—Dr. TERRIEN showed a girl, aged 7 years, suffering from blindness with proptosis. The shape of the head was markedly elongated. Ophthalmoscopy showed optic nerve atrophy, probably due to a compression of the nerve in the optic foramen.

VINCENT DICKINSON.

Philadelphia Pediatric Society.

SPECIAL PUBLIC MEETING, Tuesday, March the 22nd, 1910, CHARLES A. FIFE, M.D., President.

SYMPOSIUM ON MENTALLY DEFECTIVE CHILDREN.

Obstetrical Accidents Causing Mentally Defective Children.—Dr. EDWARD P. DAVIS, by invitation, read this paper. He discussed the accidents of pregnancy and of labour which might cause mentally defective children. Among the accidents of pregnancy may be mentioned sudden or violent mechanical force or great nervous shock, malnutrition, hereditary defects, race degeneration from alcoholism and syphilis, toxæmia and acute infections. The accidents of labour may be due to pressure and asphyxia, occurring with unattended labour, abnormal labour, ill-chosen or badly performed obstetric operations. Dr. Davis also showed how most of these accidents could be prevented.

The Relation of Ocular Defects to Defective Mentality in Children.—Dr. WILLIAM T. SHOEMAKER, by invitation, read this paper. He considered children who were deficient or backward, but tractable, offering promise of betterment or standardisation. The relationship between ocular defects and defective mentality is not one of cause and effect, but both mental and ocular defects are equally related to some other common cause. The observed phenomena belong, as a rule, to that class designated by Walton as "deviations," in contra-distinction to the so-called "stigmata of degeneracy," and children so affected are better classed as deviates than as degenerates. These deviations may be noted in any part of the ocular apparatus, and range from harmless anomalies of congenital origin to more serious conditions, either primary or secondary. Among the common deviations are malshaped skulls, with facial asymmetry and abnormally placed orbits, defects in the extra-ocular muscles, congenital defects and diseased condition of the eyelids, anomalies in the iris, lens, uveal tract, retina and optic nerve, and, finally, errors of refraction. These conditions and their sequelæ may act as a source of peripheral irritation; others, such as congenital cataract and errors of refraction, may obstruct or prevent mental development. Backward children do not, as a rule, suffer from eye-strain; they seldom have headache referable to the eyes, because they have little interest in such use of their eyes as would cause asthenopia. Ametropia is not a cause of mental deficiency in children, but is a serious obstacle in the way of mental development. In dealing with defective children all obstacles must first be removed, and it must be remembered that all knowledge of the outside world must reach a child through the special senses. The best possible vision with the least possible effort and

attention to the protective apparatus of the eyeball are important. Parents, guardians, and teachers should be instructed in the medical status of the backward child, should be taught the possible significance of the outward signs of backwardness, and should search for peripheral irritation and obstruction, particularly for those connected with the organs of special sense.

The Hearing and Speech of the Backward Child.—Dr. G. HUDSON MAKUEN, by invitation, read this paper. He said that three important cerebral faculties—hearing, speech, and intellectualism—are so closely interwoven in respect to their functional activities that no one of them can reach its highest point of efficiency without a corresponding development of the other two. So great is the dependence of the glosso-kinæsthetic centre upon the auditory speech centre that the former has never been known to come into existence prior to the development of the latter, except through special training. In this training an effort is made to make up for the lack of hearing by establishing a communication between the glosso-kinæsthetic area of the brain and the visual and tactile centres. Without a certain degree of intellectualism there can be no orderly development of language, and without the development of language there can be no orderly development of intellectualism. The character of speech is an index to the faculty of hearing and to the other important cerebral functions. The deaf child does not learn to speak because speech is developed only by the imitation of words that are heard, and the feeble-minded child does not learn to speak because it requires a certain amount of intellectualism to train and develop the lower speech centres. The character of the speech furnishes a scientific basis for the diagnosis and treatment of atypical conditions of childhood. For practical purposes two classifications of defective children should be made: those whose defects are organic, and those with functional defects. This is not always easy to do. The various cerebral faculties are to the individual what tools are to the mechanic, and we should no more expect a child to develop intellectualism without hearing and speech than we should expect a carpenter to become a skilled mechanic without a hammer or saw. Dr. Makuen then exhibited two children: one, formerly backward, has eliminated himself from the backward children by developing speech and a fair degree of mentality; the other, backward because of deafness, is developing speech through the substitution of the visual and tactile centres for the undeveloped auditory centres.

Possibilities of Development for Mental Defectives and the State's Care of them.—Dr. MARTIN W. BARR, by invitation, read this paper. He reviewed work done in developing defective intelligences from the beginning of the nineteenth century. In 1800 Itard formulated the first scheme for training imbeciles. This was modified by Seguin, and later, at Bicêtre, attracted the attention of Europe and America. By the middle of the century Seguin carried the work on in America himself, and public and private institutions were built. Then these cases were grouped distinctly, with means for development adapted to their several needs. The experience of a century is embodied in an educational classification by means of which teaching and training are conducted on simple physiologic lines, with assurance of a certain successful development for these, who must, however, always remain defective. Pennsylvania, at first providing for her helpless class only in the institution at Elwyn, with which, in its inception, Seguin was associated, has later opened institutions at Polk and Spring

City; yet this provision for over 2500 does not yet meet the requirements of the ten thousand mental defectives credited to this state.

How to get the Best Results in Training the Mentally Deficient Child.—Mr. E. R. JOHNSTONE, by invitation, read this paper, giving first the results of training mentally deficient children in the past. Training before seven and continued after sixteen is seldom of any value. If the child is defective he should be under custody all his life. As his time for learning is short we must limit the things presented to him to those we know are important. He must know enough to read simple things, to write his name and a simple letter, and to count money. First try to find the things that make the child happy, especially things to do with his hands. The teacher should begin with things the child knows and then work to the unknown, the names of things, their uses, etc. But the child's time is too short to give him anything else, unless he uses all you give him and asks for more. Girls may become good house-girls; boys assistants to carpenters, plumbers, painters, etc.

Dr. J. D. BURKS, Director of the Bureau of Municipal Research, in opening the discussion, called attention to the necessity for getting school officers, teachers, parents, and the public to face the facts concerning mentally defective children. There is need for a standard series of tests or measurements, by which a person without expert knowledge can grade a child roughly, so that he may know something definite about the children under his care and refer doubtful or abnormal children to the expert for diagnosis. At present only the most obvious types of mental defect are considered by teachers and parents as requiring special attention. A large number of pupils in every public school fail to profit by school training; they are wasting time, their time and that of teachers, principals and other pupils, because they are misplaced, misunderstood and mistreated by those adults who are responsible for knowing the facts as to physical and mental defects, and for adapting school methods to children's needs.

Dr. JAMES THORINGTON added that in sixteen years' experience in examining mentally defective children at the Elwyn and Vineland Training Schools he had noted great improvement in mentality follow the use of glasses. Some of the children would consider glasses nothing less than a toy or something to destroy. About 75 per cent. of children needing them, among the high and middle grades, would appreciate the glasses and wear them. Glasses were ordered whenever the error was over one dioptré in strength. It was common to find unusual amounts of high astigmatism and of unusual axes as compared with normal children. The glasses are a great factor in opening to the brains of these defective individuals one pathway to a more perfect appreciation of surroundings, and by correction or relief to eye-strain, excessive in nearly every instance, the child is put in a more quiet and receptive mood. The change in disposition from irritability and temper to a gentle and cheerful nature was often noted after correct glasses were prescribed. Just as normal children have their eyes examined so should the mentally defective, and whenever glasses are indicated they should be ordered and given a fair trial.

Dr. WALTER S. CORNELL stated that the record of a child's present ability is often a poor index to his real capabilities. A charted record of psychological tests alone tells nothing certainly in border-line cases. The diagnosis of feeble mind, like that of insanity, is essentially a medical subject, and is a judgment of the various effects of heredity, organic brain-defect, health,

environment, and age upon the individual's mental development. There is a great difference between public school children and institution children in environment, and in cases of doubtful mental development the elimination of this factor in institution children makes diagnosis much easier. The only attempt so far made to devise a system for recording mentality which at the same time forms a judgment for the examiner as to the existence of feeble mind is the test series of Binet. He provides several tests for children of every age, using tests asking knowledge which is acquired unconsciously and independently of school education. These tests have not yet been tried on public school children. If they correspond well to age-periods they will provide a method whereby it may be said that a child is so many years behind his normal age-development. In such cases this will supply the need of which Dr. Burks has spoken.

Dr. S. D. RISLEY said that one of the highest functions of the medical profession was the aid and direction it could give in sociologic studies. He believed that all medical schools should have an additional chair devoted specifically to the study and teaching of sociologic medicine. Dr. Risley said that the classification of backward children in the public schools could be done wisely only by experts like Dr. Barr or Mr. Johnstone, both of whom had had wide experience in the grading of imbeciles. There were many children backward in their studies at school from a great variety of causes, who had normal brains, to whom it would be an injustice to be classed with the congenitally feeble-minded. Backwardness might be, and often was, caused by defective vision or hearing. Dr. Makuen has well illustrated the importance of defects of the special senses; his explanation was not only illuminating but suggestive. The concordant action of the special senses, through their association centres, over the intellectual processes had not received due attention. It was not to be expected that a clear mental concept could be had from a blurred and incorrect visual image due to congenital ocular defect, which might be corrected by glasses or other means, but mental backwardness due to such causes should not be confused with the hopeless conditions found in the congenital imbecile. In the one case the avenues of approach to a normal brain were impaired, in the other the avenues might be open and normal, but the brain hopelessly defective.

Dr. ERNEST LAPLACE thought that the whole question was one of diagnosis. Backwardness in children is due to inherited or acquired causes. From a surgical standpoint, among acquired causes, he has established a trilogy: backward children should always be examined for adenoids, phimosi, and tongue-tie. He would also advocate a new chair of eugenics, the purpose of which would be to pass upon the aptitude of children toward education and to rectify impediments thereto.

Dr. MAKUEN said that all children should be taught to speak. Stammering often results from laughing at "baby-talk," when the correct articulation should have been taught the child. In some children speech would never develop at all unless efforts were made to help the child to speak. This is true of the child that was exhibited this evening.

Mr. JOHNSTONE added that after all remediable defects had been attended to the Binet test was of value. One must always remember that there is a great number of children of whose mentality we can never be absolutely certain—children on the border-lines between mental deficiency and defective mentality. The family history is of much importance and should be obtained in every case. While he believes in culture for normal men, Mr. Johnstone wants primarily to teach each deficient child what will make

him happy, training him in all that he can use and enjoy. He also believes that a child must learn to understand a thing before he can intelligently be taught to talk of it; he tries to have the child know things and then begins to teach him to talk about them.

Abstracts from Current Literature.

Medicine.

Diagnosis of tuberculosis in young children (*Arch. of Pediat.*, xxvi, 1909, p. 481).—**H. L. K. Shaw** and **A. T. Laird** review the various methods of detecting tuberculosis in young children, and strongly emphasise the diagnostic value of skin tuberculides. Hamburger found them in nearly all his cases of tuberculosis in infants. They are frequently overlooked, as not more than two or three can be found on the entire body. They are small round papules, red in colour at first but later often brownish, and covered with a scale which is easily stripped off. Removal of the scab does not cause bleeding, and there is never any tendency to ulceration. Their tuberculous origin is proved by their histological structure, the presence of tubercle bacilli, and experiments on animals.

J. D. ROLLESTON.

Relation of infectious diseases to tuberculosis (*Arch. of Pediat.*, xxvi, 1909, p. 490).—**E. P. Copeland** thinks that tuberculosis is a comparatively rare complication or sequela of measles, whooping-cough, or influenza, that its development almost invariably depends on the pre-existence of a latent focus of infection, and that its dissemination is due to a lymphatic activity accompanying the pulmonary catarrh which so frequently occurs in these diseases.

J. D. ROLLESTON.

Pulmonary gangrene in children (*Arch. of Pediat.*, xxvi, 1909, p. 534).—**W. P. Lucas** records a typical case in a rickety boy, aged 15 months, whose principal symptoms were sallow colour, rapid and laboured respiration out of proportion to the physical signs, paroxysms of coughing, and on the day before death gangrenous odour of the breath. The autopsy showed gangrene of the left lung, and tuberculous nodules in the right lung, liver, spleen, and small intestines. There was no meningeal involvement.

J. D. ROLLESTON.

Tertian malaria with gastro-intestinal symptoms (*Arch. of Pediat.*, xxvi, 1909, p. 525).—**J. J. Phillips** records two cases in children aged 19 and 20 months, in whom malaria closely simulated gastro-intestinal catarrh of bacterial origin. In neither case was there a chill nor a splenic tumour. Fever did not occur in the first case before the third and in the second case before the ninth day. Irrigation of the colon with normal saline and injection of quinine sulphate high up into the bowel are recommended.

J. D. ROLLESTON.

A case of so-called congenital malaria (*Arch. of Pediat.*, xxvi, 1909, p. 517).—**F. S. Meara**.—A male child, whose parents had both

suffered from malaria during the seventh month of his intra-uterine life, appeared quite healthy at birth, but within a fortnight, though breast-fed, began to lose weight, and a swelling developed in the groin and scrotum. When admitted to hospital at the age of seven weeks for hydrocele of the cord he had no symptoms suggesting malarial infection, but in the course of a routine examination the spleen was found to fill the left half of the abdomen and the liver to extend down to the umbilicus. Examination of the blood showed numerous plasmodia of the tertian type, marked poikilocytosis, great variation in the size of the red cells, numerous nucleated red cells, mast cells, and a few myelocytes. In spite of quinine treatment the loss of weight continued, and the child died a few days after admission.

J. D. ROLLESTON.

Appendicitis in infectious disease (*'Thèses de Paris,' 1908-9, No. 243*).—**R. Schmousky**, after discussing the incidence of appendicitis in other infectious diseases, deals more particularly with its occurrence in measles. The complication may occur at any period of the disease or in convalescence. As a rule it runs a mild course and yields to medical treatment. Possibly larval forms of appendicitis may occur, to detect which a systematic and minute examination of the abdomen should be made in every case of measles. The thesis contains the histories of thirteen cases, five of which are original (*cf. BRITISH JOURNAL OF CHILDREN'S DISEASES, 1909, pp. 37 and 131*).

J. D. ROLLESTON.

Scarlet fever at the Hôpital des Enfants Malades (*'Thèses de Paris,' 1908-9, No. 242*).—**P. Dumas**.—535 cases were admitted during 1908: 281 were boys, 254 girls. Twenty-two died—a mortality of 4.1 per cent. The deaths occurred almost exclusively between the ages of one and five years. Forty-five cases developed otitis, 16 in both ears, 29 in one ear only. Albuminuria occurred in 15 cases, nephritis in 3 only. Twelve cases developed rheumatism, 9 broncho-pneumonia (8 deaths), 2 empyema (both fatal), and 1 purpura hæmorrhagica (recovery); 4 had relapses. Treatment consisted in keeping all the patients on milk diet until the twentieth day, when the diet was gradually increased if no complications had developed. Buccal and naso-pharyngeal antiseptics were attempted by washing out the mouth several times daily with boiled water and peroxide of hydrogen, and by swabbing the throat with a mixture of iodine, potassium iodide, and glycerine. Purulent otitis was treated by syringing the ears with peroxide of hydrogen followed by instillations of carbolic glycerine.

J. D. ROLLESTON.

Clinical study of anterior poliomyelitis (*'Arch. of Pediat.,' xxvi, 1909, p. 507*).—**H. Heiman**, in a study of forty cases observed during the New York epidemic of 1907, states that the two most prominent features of the epidemic were the onset of the disease with signs of meningeal irritation and the occurrence of bulbar symptoms. This led to the erroneous diagnosis of cerebro-spinal fever being occasionally made. Heiman distinguishes three kinds of bulbar cases. In one bulbar symptoms alone were present. In the second type bulbar symptoms were followed by paralysis of the extremities. In the third type paralysis of the limbs first occurred, and bulbar symptoms subsequently developed. The types were due to the variable localisation of the inflammation in different parts of the brain and cord. The purely bulbar cases should be classified under acute poli-encephalitis, superior and inferior, the cases with spinal symptoms under

acute polio-encephalo-myelitis. The prognosis of cases with bulbar symptoms is very unfavourable, more than half being fatal, whereas none of the cases without bulbar symptoms died.

J. D. ROLLESTON.

The urine in the gastro-intestinal diseases of infancy (*Arch. of Pediat.*, vol. xxvi, 1909, p. 561).—**J. L. Morse** and **B. Crothers**, in an examination of the urine in 300 cases, found that albumin was present in from 8 to 10 per cent. of babies suffering from gastro-intestinal diseases. The albumin was somewhat more frequent in acute than in chronic cases, was always slight in amount, and hardly ever associated with casts. Its presence had no effect on the prognosis. Examination of the sediment showed that the process was one of pyelitis or pyelonephritis rather than acute parenchymatous or interstitial nephritis. The occurrence of œdema and such nervous symptoms as restlessness, convulsions, and stupor in gastro-enteric disease are attributed to toxæmia, and not to uræmia.

J. D. ROLLESTON.

Case of steatorrhœa following mumps (*La Pediat.*, September, 1909, No. 9, p. 674).—**G. Finizio** describes the case of a boy, aged 11 months, brought up exclusively by the breast for seven months, then by a mixed milk feeding till the ninth, and afterwards, owing to the mother's illness, was weaned. At this time he was given six meals daily of about 160 gr. of cow's milk, with a spoonful of rice or semolina added once or twice in the day. The fat in this milk was 4 per cent., and the child weighed 6·300 kgrm., and had cut six incisors. A typical attack of mumps now occurred, after the fifth day of which the child's temperature was 39·3° C., and he was fractious and evidently suffering from abdominal pain; there was slight vomiting. During the following days the pain grew less and the vomiting ceased, but an obstinate diarrhœa continued, and about a fortnight from the beginning of the attack of mumps his weight had fallen, and he had four to five actions daily of a very liquid character and offensive odour, of a greenish-white colour, and having several small lumps of a semi-solid greasy nature, insoluble in water, but completely so in ether. Filter-paper soaked in this ethereal solution, when dried, was translucent as if it had been immersed in oil. Microscopic preparations of the small lumps showed a quantity of small drops of varying size, soluble in ether and chloroform, and stained black with osmic acid and red with Sudan III. With dilute phenic fuchsin after Ziehl's method a few fatty acid crystals were seen. The amount of fat in the fæces was six times that of a healthy infant on the same experimental diet. With a fat-free diet in which the fat in the milk was reduced to ·5 to 1·0 per cent. and the administration of pancreatin, the stools gradually became normal.

VINCENT DICKINSON.

The pathology and treatment of purpura in children (*La Pediat.*, September, 1909, No. 9, p. 641).—**A. Muggia** discusses the various forms of this affection and gives reports of clinical cases. He concludes that purpura in children is met with in many pathological forms and under protean aspects; hence the treatment is varied, and must be directed primarily to the ætiological element, and afterwards to the hæmorrhagic manifestations. For the latter, injections of horse-serum or anti-diphtheritic serum may be given with benefit, but they must be had recourse to early and repeated according to the intensity and duration of the hæmorrhage. In children suffering from purpura they cause a violent reaction, but are

generally well borne. Improvement is rapid and persistent, and although they do not of themselves cause any striking modification of the morphological elements of the blood, they increase the fibrinogen, and thus, by checking hæmorrhage, improve the condition of the blood in a marked manner.

VINCENT DICKINSON.

The milk of tuberculous women (*'La Clin. Infant.'*, November, 1909, No. 22, p. 692).—**Paul Patron**, of Nantes, has made a number of experiments on the milk of tuberculous women, and arrived at the following practical results. Suckling being a fatigue, the consumptive mother, in whatever stage of the complaint, should not suckle, in spite of the indisputable advantages of maternal feeding. The port of entry of pulmonary tuberculosis being frequently the digestive system, the nursing of a consumptive must not have the mother's milk nor that of another consumptive nurse. When injected, boiled, in doses of 5 c.c., into the cellular tissue of a tuberculous guinea-pig, this milk produced, in more than half the cases, a reaction analogous to that caused by tuberculin, while, when injected into a healthy control animal, this reaction was absent. This reaction takes place whether there are, or are not, tubercular mammary lesions. When injected raw into the cellular tissue of a healthy guinea-pig in doses of 2-3 c.c. it was capable of causing tuberculosis. The milk of healthy women inoculated into tuberculous guinea-pigs only gave once out of four times a slight rise of temperature, which even in this case did not reach that caused by the injection of tuberculous milk. The milk of a tuberculous cow or other animal is as dangerous as that of a woman, and every precaution must be taken that milk is not supplied by animals which react to tuberculin.

VINCENT DICKINSON.

An epidemic of infantile paralysis (*'La Presse Médicale'*, 1909, No. 87, p. 767).—**R. Romme** draws attention to the reports of Krause and Meinicke (*'Deutsch. med. Wochens.'*, 1909, No. 42, p. 1822) of this epidemic which broke out in June to August of this year in Westphalia, 436 persons, almost exclusively infants, between five weeks and fifteen years being attacked, and of whom sixty-six died. The disease was imported by two Swedish engineers who came to Hagen from a district in Sweden, where there had been an epidemic, and took up their abode in a family in which the first case occurred. Throughout the epidemic adults frequently acted as carriers of the infection. A striking point was the frequency of intestinal lesions disclosed by the autopsies, and which suggests the question whether polio-myelitis is not caused by some intestinal infection. Investigations on this point with regard to food, water, milk, bread, meat, vegetables and fruit gave negative results, as did also those made with regard to bites of insects and the coincidence of an epizootic epidemic among chickens. Various micro-organisms were found in the stools, urine and tonsils, but these were not present in the blood, cerebro-spinal fluid or viscera. Inoculation experiments on animals were also ineffectual, but in a certain number of cases inoculations gave a positive result in rabbits, and Meinicke thinks this fact may give a clue to the discovery of the cause of this disease.

VINCENT DICKINSON.

Dementia choreo-asthenica, with juvenile nodular hyperplasia of the liver (*'Münch. med. Wochens.'*, November 17, 1908).—**Anton** saw a case in late childhood in a girl who was the subject of congenital syphilis.

The first signs noticed were irregular movements of the facial muscles; later the gait became unsteady and staggering, and was associated with inco-ordination of the arm muscles. Paralysis did not occur until near the end of the disease, but the muscles became easily exhausted. Choreiform movements of the face and limbs gradually became so severe as to make purposive movements almost impossible, and even phonation and mastication were difficult. There was also progressive dementia, but it was never extreme. Death occurred in convulsions. From the time the child first came under observation there was sugar in the urine. At the necropsy the liver was found to be enlarged and studded with irregular nodules—juvenile nodular hypertrophic cirrhosis. In the brain were numerous foci of softening, especially in the lenticular nuclei. There was also a large area of softening in the left frontal lobe, and degeneration of the white matter in both lobes of the cerebellum. The foci of softening were attributed to the vascular changes caused by syphilis.

T. R. WHIPHAM.

Tuberculous peritonitis in the nursling (*Arch. de Med. des Enf.*, June, 1909).—**Wiel** and **Pehu** are of opinion that the caseous form of tuberculous peritonitis is the commonest amongst nurslings, and that caseous tubercles are present in the peritoneum in the majority of cases. Concomitant tuberculous lesions of the intestines also are very common. In both sexes caseous tubercles in the genitalia are a characteristic feature, and are probably due to an infection carried by the blood-stream, while diffuse tuberculous lesions in other organs are usually found. The chief clinical manifestations are abdominal distension, vomiting, diarrhœa, and progressive wasting. On palpation there is usually pain and tenderness, and enlarged mesenteric or retro-peritoneal glands can often be felt. The liver and spleen are also at times enlarged. In females there is frequently a purulent vaginal discharge, and in males a rectal examination reveals an infiltration around the prostate or seminal vesicles. Most cases are apyretic except when complicated by a secondary infection. Wasting is pronounced and progressive, and the termination is usually fatal as the result either of marasmus, of a secondary infection, or of meningitis. Recovery, however, sometimes occurs, and usually in the ascitic form, which is comparatively rarer in infancy than in later life. The treatment is practically the same as in older children. Paracentesis is often of value, but laparotomy is apparently no more efficacious than conservative treatment.

T. R. WHIPHAM.

Bacteria in top-milk (*Journ. of Infectious Dis.*, June, 1909).—In view of the fact that top-milk is so often advocated, at least by American writers, for the use of artificially fed infants, **Anderson's** investigations are important. He finds that the top layer of milk which has been allowed to stand contains from 10 to 500 times as many bacteria per c.c. as the mixed milk, and that a similar but greater difference exists between centrifugalised cream and the milk itself. The bacteria are carried upwards by the cream particles in large numbers, only a comparatively small quantity falling to the deeper parts. Thus there may be a great danger in feeding infants with top-milk as compared with whole milk, and this may explain the fact that children often do badly when fed in this manner. The diarrhœa may be due to micro-organisms rather than to a faulty proteid or fatty content. The investigation forms an additional argument in favour of feeding with mothers' milk

rather than that from the cow. The investigations of **Hess** ('*Pediat.*,' *August*, 1908; '*Journ. of Amer. Med. Assoc.*,' *August* 14, 1909) show that if tubercle bacilli are present in milk they are found in greater numbers in the skim-milk, and that in bottled milk inoculated with typhoid bacilli the same thing occurs. He therefore advises the rejection of the top-milk in infant feeding, and uses the "middle-milk," the proportions of which can easily be estimated.

T. R. WHIPHAM.

Hereditary spastic paraplegia ('*Journ. of Amer. Med. Assoc.*,' *July* 31, 1909).—**Punton** has seen seven cases of this rare condition. In the first family four members were affected—the mother, aged 59 years, in whom the disease occurred after her marriage at the age of 23; a son, aged 34 years, in whom it began at 16; a son, aged 32 years, in whom it began at 15; and a son, aged 24 years, in whom it began at 14 or 15. The second family showed three cases—the mother, aged 43 years, in whom the disease began at 33; a daughter, aged 7 years, who had been affected for a year; and a daughter, aged 5 years, in whom it began in infancy. As the disease is incurable the only measures to be taken are prophylactic, and consist in discouraging marriage in persons with a tendency to this disease.

T. R. WHIPHAM.

Diagnosis of tuberculous bronchial glands in children ('*Arch. f. Kinderheilk.*,' *L.*, 1909).—**Cozzolino** has been able to diagnose tuberculous bronchial glands in eighteen children between the ages of two and thirteen, the diagnosis being confirmed by the subsequent course of the cases. There were generally more or less anæmia and dyspepsia, and the superficial veins were enlarged. Sometimes the cough was suggestive of pertussis, and sometimes it was accompanied by vomiting. A useful sign was dulness over the fifth and sixth dorsal spines. Occasionally there was dulness between the scapulæ, and in some cases there was marked diminution in the breathing on one side. X-ray shadows are difficult to interpret in the early cases; they are much more useful where the glands are calcified.

T. R. WHIPHAM.

Congenital tuberculosis ('*Jahrb. f. Kinderheilk.*,' *July*, 1909).—**Riet-schel** saw a case of congenital infection with tubercle. The child was the offspring of a woman, aged 30 years, who had advanced tuberculosis. Immediately after birth it was wrapped in a towel and placed ten feet from the mother. In twenty minutes it was bathed in an adjoining room, and within forty-five minutes of its birth it was transferred to a foundling's home. There was no sign of tuberculosis at first, but evidence of disease was found after about a month. The child died from generalised tuberculosis at the fourth month. The writer considers that the infection probably occurred during delivery—intra-partum infection. As many infants are unable to produce antibodies, infection during birth is invariably fatal whether the child is taken away from its mother or not. If tuberculosis does not develop until after the sixth month, infection probably occurs after birth. Intra-partum infection is commoner than is usually supposed, and there are no grounds for supposing that the bacilli lie latent in the child, which is one of the premises of Behring's theory of tuberculous infection in early infancy.

T. R. WHIPHAM.

Pseudo-hypertrophic muscular dystrophy ('*New York Med. Journ.*,' *August* 28, 1909).—**Potter** saw a case which supports the view that there

may be transitional forms of dystrophy, in which changes in the nervous system are associated with diseases of the muscles. The patient was a boy, who, at the time of his death from pneumonia at the age of fifteen, was unable to use the lower and, to a less extent, the upper limbs. There was hypertrophy of the calf and thigh muscles, with atrophy of the thoracic, shoulder, and arm muscles. The abdomen was protruded and the reflexes were absent. At the necropsy there were typical changes in the peripheral muscles; the peripheral nerves were small and degenerated, and the anterior roots showed similar changes. The anterior horn-cells were degenerated, especially in the lumbar region, the changes being most marked in the ventro-mesial group and in those of Clarke's column. The liver was large and fatty, and the heart muscle showed atrophy and fatty infiltration with slight fibrosis.

T. R. WHIPHAM.

The cutaneous tuberculin reaction in children (*Jahrb. f. Kinderheilk.*, Bd. 69, Heft 6).—**Hellesen** tested Pirquet's reaction in 418 patients up to fourteen years of age in the University Children's Clinic in Christiania. His results correspond on the whole with those of other observers, but contrary to Pirquet he found an increase of positive reaction after the age of two years. He considers the reaction specific, and a harmless and valuable diagnostic help to the discovery of tuberculosis in children, and that a negative reaction in any period of childhood has an especially great significance.

J. E. BULLOCK.

Icterus neonatorum (*Jahrb. f. Kinderheilk.*, Bd. 69, Heft 6).—**Hasse**, in a short communication illustrated by three diagrams, takes the view that the ordinary jaundice of the new-born is an obstructive jaundice, which sets in on the commencement of diaphragmatic breathing during the first few days of life and finally disappears. According to Hasse, it happens that through the sinking of the diaphragm during inspiration compression of the excretory ducts of the liver and the large vessels, especially the portal vein, is increased, and thus the bile is impeded in its normal flow and is absorbed. Hasse considers that the compression diminishes after a little while, following the decrease in size of the liver, brought about through the respiration and the changes in its position affecting its portal vessels and excretory ducts as well as the underlying duodenum.

J. E. BULLOCK.

Treatment of tuberculous children with large doses of tuberculin (*Münch. med. Wochens.*, No. 44, 1909, p. 2288).—At the Congress of German Physicians held in Salzburg, September, 1909, **Fuchs** reported the results which he had obtained in tuberculin treatment by Schlossmann's method. In thirteen surgical cases and five cases of simple apex affection he had obtained no good result, and in one division of the cases he was convinced of distinct harm, and the extension of specific processes in remote parts of the body was evident. Further, he reported that after an injection he had observed a peculiar extensive skin-reaction in the neighbourhood of the infected area. In the discussion which followed **Schlossmann** stated that he had never seen anorexia and anæmia follow his method of treatment; he had never spoken of cure in an infant, but of tuberculous infants which were treated not one had died. **Escherich** was of opinion that we do not yet know the course of tuberculous lesions in children. He had never seen harm follow the treatment, but tuberculin could not effect a positive cure. He considered it inadmissible in the treatment of children with

progressive tuberculosis. **Ganghofer** recommended only small doses. **Schlossmann** was opposed to **Hamburger's** views with respect to the infection of young children with tuberculosis, as had been strongly commented upon by **Escherich**. **Bauer** was in favour of tuberculin treatment in selected cases.

J. E. BULLOCK.

Pathology.

The localisation of carcinoma in early life (*'Zeit. f. Krebsforsch.,'* June, 1909).—**Lindemann** gives a compilation of the literature on this subject, and states that there is no absolute limit below which carcinoma may not appear; it has been observed even in the first few months of life. There is, however, a marked difference between the different tissues as regards the early appearance of carcinoma. **Riegel** has recorded two cases of gastric carcinoma in the new-born and one in an infant aged 6 weeks. There are also records of carcinoma of the testicle in a child aged 18 months, of an ovarian carcinoma at nine months, and of cancer of the uterus in a girl aged 8 years. Three cases of carcinoma of the pancreas between the ages of seven months and fourteen years are also reported. The kidneys show a special susceptibility to carcinoma in the young, as more than one third occur before the tenth year and 5 per cent. between the tenth and twentieth years. At least one case of carcinoma (primary) of the liver has been described in the new-born, while among the intestinal growths twenty-three authentic cases before the twentieth year were found.

T. R. WHIPHAM.

Therapeutics.

Treatment of diphtheria (*'Therap. Monatshefte,'* 1909, p. 414).—**Eckert**.—The success obtained by **Pospischill** (*v. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1909, p. 133) from subcutaneous injection of adrenalin in diphtheria prompted its employment in **Heubner's** clinique at the Charité in Berlin. Two to 3 c.c. of the 1 in 1000 solution were given subcutaneously three to four times a day, and its effect on the blood-pressure observed by **von Recklinghausen's** tonometer. The highest rise of blood-pressure was noted during the first two hours after injection, but the action of the adrenalin was not entirely exhausted before seven hours. The subcutaneous method is therefore preferable to intra-venous injection, with which the action of the drug is very transient. Abscesses were never observed at the site of injection as in some of **Pospischill's** cases. The treatment, however, was decidedly painful, and required the frequent application of cold compresses. Glycosuria was sometimes noted, and was most marked during the first two hours after injection. Fourteen hours after the last injection no trace of sugar could be found in the urine.

J. D. ROLLESTON.

The possible utilisation of puppies as breast-pumps (*'La Clin. Infant.,'* November, 1909, No. 21, p. 642).—**G. Variot** is the originator of this quaint and novel idea in an article which deserves reproducing at some length. It has been a virtual necessity, he says, to construct more or less complicated breast-pumps, without much success, in which a vacuum is formed either with the mouth or by bellows. Quite recently an apparatus has been brought forward which is designed to imitate suction movements, but it is evident that no machinery can be as perfect as the mouth of infants or young animals which suckle. The admirable adaptation of the buccal suction to the end of the nipple and the force of aspiration developed by the

lingual piston from the first few days after birth suggest the question, Why not utilise young animals as natural breast-pumps either when we want to accelerate the in-come of the milk and influence the formation of the breasts in certain primiparæ, or in women whose infants are too weak to seize the nipple, or, on the other hand, in order to empty breasts which are too full, or to keep up or excite the lacteal secretion whenever necessary? Variot found that the villagers in certain parts of France habitually had recourse to newly born puppies to induce the flow of milk, and asserted that they drew more strongly than an infant. The reason why the practice of this method is not more common is probably because it is not generally known. Given a healthy bitch there is nothing to be feared from the puppies by way of infection. It does not seem any more repugnant for the woman to have her breasts sucked by a young animal than to put a new-born infant to the teat of a goat or ass, as is often done. If blood is drawn by a leech, why not milk by a puppy?

VINCENT DICKINSON.

The cure of stammering (*'La Clin. Infant.,'* November, 1909, No. 21, p. 657).—Those interested in this subject should peruse a communication made to the Caen Medical Society by Dr. Chervin. Stammering must be considered as a functional neurosis of the organs of speech which develops in early childhood. It is essentially intermittent, but disappears completely in singing. It is always associated with respiratory trouble and nervous fears. His method of treatment is complete in three weeks. The *first week* is devoted to the study of the elements of speech and the methodical exercise of respiration. The respiratory rhythm must first be re-established, and for this purpose the stammerer is taught to breathe and use his respiration from a speaking point of view. This is done by methodical breathing exercises, and expiration is utilised to pronounce isolated and afterwards connected sounds, beginning with vowels. During this week ordinary methods of speaking are forbidden, and this silence also contributes to calm the pupil's mind and make him forget the manner in which he stuttered. In the *second week* liberty of speech is given, which the pupil uses to speak in the way he has been taught. The grimaces, spasms, hesitations and repetitions disappear as if by magic under this method. The *third week* is employed in consolidating the new habit that the pupil has acquired of speaking with precaution and method, and of perfecting his intonation. The marked syllabation is replaced by a slightly accentuated diction, in which all the syllables are pronounced deliberately and without haste. During this last week the pupil is advised to imitate persons who speak well, whose diction is calm and impressive, whose voice is natural and inflections not monotonous, and whose expressions are easy to understand and agreeable to listen to. When the pupil leaves he should be considered a convalescent, and should keep up his exercises for another month for two or three hours daily.

VINCENT DICKINSON.

Treatment of rickets (*'Med. Press,'* November 17, 1909).—**Zingher** compares the results of his treatment of rickets by the old method of phosphorised cod-liver oil with that of a new preparation called "salossit." He begins by giving a short history of the disease. First described by Glisson in 1670, it was soon recognised as a dyscrasia of the whole organism due to faulty hygiene, and sometimes following tubercle, syphilis, etc. Later the digestive system was believed to be one of the primary causes. In 1842, Baginsky and Chassat, experimenting on young animals, produced rickets by

excluding all forms of lime from the dietary in accordance with the chemical theory of the time. Friedleben and Tripièr denied this, and affirmed that rickets was produced when the animals were fed on lactic acid or when this constituted a large proportion of the food. After much controversy it was agreed that both theories contained elements of truth. Zweifel followed next, maintaining that a reduction of chlorides in the blood checked the absorption of the calcium salts, and thereby induced rickets. Later Kassowitz came to the conclusion that the fault lay in the absence of the phosphate of lime, one of the constituents of bone. The rational treatment followed of adding phosphorus to cod-liver oil, then iron, and finally green fruit as a restorative or prophylactic. To obviate the difficulty of patients taking this oil mixture and of obtaining fresh fruit in the winter, various preparations, such as phyton, visvil, and bioson, have been put on the market. The latest is Salossit, which is composed of phosphorus anhydride 1.17 per cent., organic matter 2.32 per cent., calcium .87 per cent., magnesia .16 per cent., saccharum lactis 94.82 per cent., and with it Zingher has had considerable success. Eighteen patients were treated with phosphorised cod-liver oil, and eighteen with salossit. With the latter recovery was more effective and rapid, and not one suffered from gastric or digestive disturbance. In six to eight weeks a striking improvement was observed. With the oil the results were also good, but in seven cases the treatment had to be suspended on account of vomiting and general gastric disturbance. Two were not able to take the oil and finally had to be treated with salossit, when they rapidly improved. The preparation is best given in milk—a teaspoonful twice or three times a day according to age. The large percentage of milk sugar makes it an agreeable food, and it is easily borne by the most delicate child.

T. R. WHIPHAM.

Otology, Laryngology, and Rhinology.

Nasal myo-sarcoma in a child aged 3 years (*Journ of Laryngol.*, November, 1909).—ROSS described this case. Nasal breathing had been obstructed for six weeks; nasal voice; frequent epistaxis. Left naris filled by greyish-yellow, soft, friable mass, encapsuled, bleeding at touch. Removed with forceps, scissors, and electric cautery. Found to be attached to septum at junction of bone and cartilage. Recurrence in two weeks; operation repeated four times, last being on November 30, 1908. No recurrence on May 1, 1909. Pathological report: Myxoma which had undergone sarcomatous degeneration.

MACLEOD YEARSLEY.

Serous meningitis and deafness (*Arch. Internat. de Laryngol., d'Otol., et de Rhinol.*, July-August, 1907).—DE STELLA points out that children are more easily affected by meningitis than adults, and that the predisposing cause is congenital. The real cause is usually some toxin absorbed from the gastro-intestinal tract, which, in many cases, so acts on the auditory apparatus as to leave total or partial deafness. He advises calomel internally, ung. hydrarg. externally, and, above all, lumbar puncture. In this way pressure symptoms are relieved and the deafness cured. The serous fluid is clear, abundant, and aseptic.

MACLEOD YEARSLEY.

The treatment of scarlatinal otitis, with special reference to the value of the radical mastoid operation (*Practitioner*, November, 1909).

—**A. K. Gordon**, in 8685 patients at the Monsall Fever Hospital, found 1708 having discharge from one or both ears during residence. He gives an interesting series of statistical details, and very clearly discusses the essential points of difference between scarlatinal and non-scarlatinal otitis. He believes that the onset of scarlatinal otitis is inevitable, and that it does not, as a rule, occur at all in the mild attacks. There is abundant evidence that these otorrhœas are infective. In moderate attacks of scarlet fever the value of nasal irrigation as a prophylactic is insisted upon. When the nasopharynx is blocked with sloughing adenoids, removal, whatever the general condition as regards pyrexia, etc., is advocated. The vast majority of scarlatinal otorrhœas require no further treatment than frequent irrigation with sterile water or salt solution; 60 per cent. can thus be cured. Fifteen per cent. of patients require operation, and, for reasons given, the radical mastoid is greatly to be preferred. The paper really requires perusal in full.

MACLEOD YEARSLEY.

Surgery.

Acute hydronephrosis in a case of horse-shoe kidney (*Pediatrics*, 1909, p. 161).—**J. Hess**.—The patient was a boy, aged 6 years, who had suffered for the past fortnight from vomiting and pain in the right inguinal region, in which a mass could be felt. At the laparotomy the left kidney was found to be larger than normal but not cystic, while the right kidney was full of straw-coloured fluid, which was evacuated. Recovery was uneventful.

J. D. ROLLESTON.

Invagination of the intestine in children and its treatment in Denmark (*Hospital studende*, 1909, No. 14).—**Bloch** reports that invagination of the intestine occurs comparatively frequently in Denmark. The non-operative method of replacement, which gave good results in the hands of Hirschsprung (60·75 per cent. recoveries in 107 cases) is still employed by Danish surgeons. He reports nine cases which were treated in the Queen Louisa Children's Hospital while Professor Wichmann was surgeon-in-charge. All nine cases were invagination of the colon or the ileo-cæcal valve; only five were treated within twenty-four hours of the onset of the disease. Laparotomy was performed only in one case; in the others non-operative methods were used. The laparotomy case died, also four of the other cases, of whom two came under treatment after forty-eight hours. He points out that the non-operative methods were unsuccessful, and is of opinion that they can only prove successful in quite early cases. He advises that repeated non-operative attempts at replacement should not be carried out, and that such patients should be placed under a surgeon for operation.

J. E. BULLOCK.

Successful omentopexy in cirrhosis of the liver (*Intercolonial Med. Journ.*, June, 1909).—**White** records the case of a girl, aged 9 years, who had been delicate since birth, but for eighteen months previous to admission to hospital had suffered from an increasing swelling of the abdomen. There was no history of intemperance in the parents, but the mother stated that on account of the child's delicate health she had been in the habit of giving her from one half to three table-spoonfuls of whiskey daily. The Wassermann test for syphilis was negative. While in hospital the child was tapped five times at intervals of a fortnight on account of ascites, but

the fluid reaccumulated and the relief was only temporary. The abdomen was then opened and a typical hob-nailed liver was found. The spleen was considerably enlarged. Omentopexy was performed, and after the operation the child was tapped three times in five weeks, but after that marked improvement set in and further tapping was unnecessary. Two months after the operation the child appeared to be in good health and all signs of ascites had disappeared.

T. R. WHIPHAM.

A simple operation for prolapse of the rectum in children (*Med. Rev.*, August, 1909).—Ekehorn describes an operation for prolapse of the rectum which consists in attaching the posterior wall of the rectum to the sacrum by means of a transverse suture. No incision of the skin or rectum is necessary. The prolapsed rectum is first replaced and held in position by the forefinger of the left hand. A moderate-sized needle in a handle is then passed through the skin at one side of the extremity of the sacrum, and is pushed through the soft tissues until it pierces the rectum. It is then guided by the finger of the left hand to the anal orifice, where it is threaded with a piece of stout silk, one end of which is withdrawn with the needle. The other end of the ligature is similarly brought out at the same level on the other side of the sacrum and the two ends are tied together over the skin. No dressings are required, and the patient need not be kept in bed. After a fortnight the suture is removed. In the writer's experience no rise of temperature follows, and no inconvenience is caused by the presence of the suture after the pain of the operation has passed off.

T. R. WHIPHAM.

Correspondence.

A CASE OF CYCLIC OR RECURRENT VOMITING ASSOCIATED WITH HYPERTROPHIC STENOSIS OF THE PYLORUS.

To the Editor of THE BRITISH JOURNAL OF CHILDREN'S DISEASES.

DEAR SIR,—With reference to Mr. T. C. Dent's letter in your last issue, I should like to point out that the question of hypertrophic stenosis of the pylorus concerned me only in so far as in my case it seemed to throw light on the pathology of recurrent or cyclic vomiting of children, a condition the nature of which has given rise to considerable discussion.

To describe hypertrophic stenosis of the pylorus as "an affection of young infants" is, of course, hardly accurate, as the statement is open to the inference that the condition is confined to young infants, which is not the case, as my own case and others clearly show, but I presume that Mr. Dent will agree with me that it is much more common in infants than in older children, if only for the reason that many infants die of it, and further, it has rarely been described in older children.

I do not understand why Mr. Dent states that I "assume . . . that the condition does not persist," as I think I made it clear in the description

of my case that the child had been liable to the attacks from birth, and I did not doubt that the hypertrophic stenosis was the cause throughout. Further, in conjecturing that the condition might have been overlooked at autopsies of older children, I intended to imply the possibility of its persistence.

The object of my paper was to report a case presenting the typical symptoms of so-called cyclic vomiting, in which the presence of hypertrophic stenosis of the pylorus seemed to throw a new light on the pathology of, at least, some cases of this condition. It is a very generally accepted opinion that hypertrophied muscle-fibre, especially of the unstriated variety, is prone to spasm, and further we know that both the pyloric and cardiac ends of the stomach are liable to spasm. Recurring attacks of spasm would convert an incomplete into a complete obstruction of the pylorus, and my contention was that the other symptoms of vomiting and acute starvation with the presence of the acetone bodies in the breath and urine would follow automatically.

Mr. Dent, however, is an opponent of the view that spasm enters into the pathology of hypertrophic stenosis. I was not concerned in my paper with the pathology of the production of hypertrophic stenosis, and quoted various views as to the existence of muscular spasm in that condition merely to show that, given the existence of hypertrophic stenosis, the possibility of the occurrence of attacks of muscular spasm cannot be dismissed lightly.

As regards the possibility that folds of mucous membrane may have been concerned in the production of the attacks of pyloric obstruction in my case, I can only say that there was no evidence of any excess of mucous folds at the autopsy, though I can conceive that such might produce obstruction, but so also would spasm.

Mr. Dent adds that "I cannot but think that this" (*i. e.* the presence of mucous folds in the pyloric canal) "is the chief explanation in such a case as Dr. Russell has described." It would seem, therefore, that he adopts my views, at any rate to the extent of agreeing that recurring attacks of complete pyloric obstruction did occur in my case. This was my main contention.

As the symptoms presented by my case were those characteristic of cyclic vomiting I regret his remark that "with the pathological chemistry of the case I am not concerned at present," for, as above stated, it seems to me that the vomiting, wasting, and chemical changes were directly referable to the attacks of mechanical obstruction of the pylorus.

The question of operation was, of course, considered, and I am of opinion that timely operation would probably have saved the child's life. It has to be remembered, however, firstly that the symptoms were those of cyclic vomiting in which the possibility of mechanical obstruction of the pylorus has not, so far as I am aware, been brought forward before, the current views invoking some toxic cause. The possibility of obstruction of the pylorus did, however, occur to me. In the second place, despite the boy's emaciation, he did not appear to be in danger of dying. Recovery from the first attack was complete, and in the second attack severe broncho-pneumonia, very possibly due to the vomitus invading the bronchi, precipitated a fatal issue on the sixth day of the attack. In any severe and prolonged attack of cyclic vomiting the question of operation would deserve serious consideration.

I am,
Yours faithfully,
A. E. RUSSELL.

April the 14th, 1910.

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

VOL. VII.

MAY, 1910.

No. 77.

Original Articles.

SYMMETRICAL TROPHIC LESIONS OF THE EXTREMITIES
IN A CHILD; SYRINGOMYELIA (MORVAN'S TYPE).*

By H. MORLEY FLETCHER, M.D.

THE patient, a female, aged 6 years, was admitted to St. Bartholomew's Hospital on July the 27th, 1909, with the following history: In infancy she was backward and began to talk late. Up to the age of four years she did not walk, but dragged herself in a sitting posture about the room; at four years she began to walk properly. When she was two years old the tip of one forefinger became swollen and began to discharge: this ultimately healed with the loss of the tip of the finger. A similar process took place subsequently in the fingers and thumbs of both hands, and was entirely painless. When three years old the feet first became affected, and the left great toe was lost by a process similar to the above. On one occasion she put her feet in the fire, and, although severely burnt, she felt no pain. In the summer of 1908 she fractured the right tibia and fibula, the result of a fall whilst playing; she did not complain of any pain, and the injury was not recognised till two days later, when the mother discovered the fracture by the "looseness and grating" of the parts. The fracture was treated at the London Hospital, where she came under the observation of Dr. Head. The patient has had measles but no other illnesses. She is

* Shown at the Clinical Section, the Royal Society of Medicine, January the 14th, 1910.

the ninth of a family of twelve, of which five are now alive and well. The others died in early life from acute illnesses. Both parents English, and alive and healthy. There was no history of any other member of the family having any similar disease. There



FIG. 1.—Syringomyelia (Morvan's type).

was no evidence of syphilis, acquired or congenital. The child has never been abroad.

When admitted to the hospital she was well grown, but dull and lethargic. Eyes natural, except for left internal strabismus: no pain felt on touching the cornea or sclerotic, but corneal



FIG. 2.



FIG. 3.

reflex was present. Mental development retarded, but this improved greatly during her stay in the hospital. Thorax and abdomen natural. There was no muscular wasting or paralysis. Habits clean. Limbs: Both arms were natural. Right hand: The terminal phalanges of all the fingers and the thumb were lost,



FIG. 4.—Skiagram of left hand.

and when a phalanx had fallen off the separation had occurred either at the interphalangeal joint or a small piece of bone had remained, representing the terminal phalanx and movable in any direction. Left hand: The terminal phalanges of the fingers and thumb were similarly affected (Fig. 2). Legs: Left lower limb was externally rotated and could not be fully rotated inwards; slight flattening of prominence of left trochanter. Knees: Left, natural; right, 5° of genu valgum



FIG. 5.—Skiagram of right foot.

present. Legs: Left, natural; right, bent with convexity inwards, the apex of which is the site of the old fracture; slight shortening of right leg; some creaking in right ankle-joint. Feet: Left, great toe and first metatarsal absent; right, terminal phalanx of great toe missing (Fig. 3).

On admission, foetid pus was oozing from the finger-stumps and from a sinus in the left foot. There were several superficial ulcers on the legs and buttocks. The discharge and the ulcers soon cleared up under local treatment. Gait: She was just able to stand, but could not walk; this appeared to be due in part to muscular weakness due to confinement, and in part to the deformity resulting from the fracture. Sensation: Over the whole of the cutaneous surface and the mucous membrane of the mouth and tongue the sensation of pain was absent. Corneæ insensitive to pain. Tactile sensation present over the whole body. Thermal sensation certainly impaired, but it was impossible to decide whether it was absent or not. Electrical reactions: Dr. Lewis Jones reported that these were normal, and further, that "it is very doubtful if she feels the current in her extremities." Reflexes: Knee-jerks and plantar responses not obtained. Abdominal reflexes absent.

Skiagrams.—These show no evidence of rarefaction of bone such as is described in adult cases of syringomyelia (Figs. 4, 5). In the right leg there is an old fracture with callus at the junction of middle and lower thirds of tibia and fibula (Fig. 5).

During the child's residence in hospital the tips of the fingers have on several occasions become inflamed, but this has quickly subsided under treatment.

There can be no doubt but that this is an interesting example of syringomyelia of the variety known as Morvan's type, occurring at an unusually early age. Dr. Head has informed me that he described some years ago, in the 'London Hospital Gazette,'* a somewhat similar case in a child, but with this exception I have not met with any account of this type of the disease in an infant in English publications. All forms of syringomyelia are very rare in children, judging by the figures given by Schlesinger. In a series of 260 cases collected by him, nine occurred in children under ten, and the type of disease is not specified. It is interesting to note that syringomyelia is twice as common in males as in females, taking all ages into account, but that, in his nine cases in children, five females were affected to four males. The striking features of the

* July, 1903, vol. x (Clinical Section).

case are the universal distribution of the analgesia and the complete absence of muscular atrophy.

I must express my thanks to Dr. Yates for the notes on the case, and to Dr. Walsham for the skiagrams.

CHRONIC POLYARTHRITIS WITH ENLARGEMENT OF THE LYMPHATIC GLANDS (STILL'S DISEASE).*

By R. BARCLAY NESS, M.A., M.B., C.M.,

Physician, Royal Hospital for Sick Children; Assistant Physician, Western Infirmary, Glasgow.

THE patient, M. L—, a girl, aged $4\frac{1}{2}$ years, was admitted to the Western Infirmary, Glasgow, on April the 10th, 1909, with enlargement of all the joints of the limbs except the right elbow. There was also present well-marked general emaciation. The mother stated that the patient had been a healthy child up to fifteen months before admission. At that time the great toe of one foot became sore. At first the skin was not broken; but twenty-four hours later a small amount of sanguineous discharge escaped from the side of the nail. She was feverish and confined to bed. In a short time she was allowed to rise, but she still complained of a feeling of soreness over the whole body. Possibly this slight affection had no real connection with the polyarthritis which developed later, but it is put on record because the mother dates the child's ill-health from that time.

Two months afterwards she contracted measles, and five months later, or eight months before admission, the joints began to swell. The hands were first affected and the feet last, all the joints being involved within three or four months. Since then, up to the time of admission, there was very little change in the condition of the child. At first there was free perspiration at night, latterly very little. Slight cough was also present, but no expectoration. Gastro-intestinal symptoms were absent. At this time the child was under the care of Dr. Smith, of Lesmahagow, who treated her by as generous a diet as possible, the administration of alkalis, salicylates and iodides, and by inducing local passive hyperæmia of the joints with Bier's bandages, but these measures were not accompanied by any distinct benefit.

* Shown at a meeting of the Medico-Chirurgical Society of Glasgow, on December the 10th, 1909

Family history.—The father was reported as being well, but in childhood he appears to have suffered from tuberculous peritonitis. The mother has had one attack and several subacute attacks of rheumatism during the last few years, while a younger sister of hers has suffered from chorea and rheumatism. There were in the family eight children, including the patient; of these three are dead—one died in infancy from some unknown cause, the other two died of broncho-pneumonia when very young. The other four children who are alive are not robust, but they have no

FIG. 1.



definite ailments. None of the children are known to have had any form of tuberculosis, and no information could be obtained in support of transmitted specific disease.

Condition on admission.—The child was very thin and wasted, weighing, minus her clothes, only 1 st. 13 lb. The hair of her head was very thick and dark, the eyelashes long and black, while a considerable growth of downy hair was present over the whole body, particularly the back. The child lay most comfortably in the lateral decubitus with thighs and legs flexed. In the sitting posture the same flexion was maintained, and it was noticed that the

head was slightly flexed on the thorax and that its movements were limited, evidently the result of implication of the cervical spine. The condition of the child at this time, particularly as regards the joints and limbs, is well represented in the reproduction of two photographs (Figs. 1 and 2). The muscles of the arms and legs were much wasted, while all the joints of the extremities, except the right elbow, were greatly enlarged. The enlargement of each joint was uniform, and on palpation there was conveyed to the finger a soft doughy feeling, without the sense of fluctuation. The hip-joints were both affected, but the knee-joints presented the most

FIG. 2.



notable enlargement, and appeared very prominent in contrast with the emaciated limbs. The swelling was quite regular and the patellæ were not deflected. The ankles were also markedly swollen, while the metatarso-phalangeal and phalangeal joints were only slightly affected. The hands presented a very peculiar appearance. The wrist-joints were much enlarged; so also were the metacarpophalangeal joints. The joints most affected, however, were the second inter-phalangeal joints, and the swelling of these gave the fingers a marked spindle shape. An X-ray photograph reproduced in Fig. 3 showed the condition of the joints was not due in any distinct way to changes in the bones themselves.

The left elbow-joint and both shoulder-joints were also affected. The right elbow, of all the joints of the limbs, alone escaped. All the various joints affected could be passively moved without much pain, but slight creaking could be felt. The movement in most joints was limited, while in some, for example the left elbow and both knees, some flexion was present, the result of contracture.

FIG. 3.



The superficial *lymphatic glands* in various situations showed considerable enlargement. In the neck those on the left side were most affected, and could be palpated in both the anterior and posterior triangles. In both axillæ they were enlarged, but more so on the right than on the left side. In the groins they were equally enlarged on the two sides. The examination of the *heart* and *lungs* revealed nothing abnormal. The chief fact noted in the examination of the abdomen was the enlargement of the *liver*, which could

be easily felt extending a little below the level of the umbilicus. The edge and surface were firm and regular. The measurements of the hepatic dulness were 2 in., 5 in., and 4 in. in the middle, nipple, and mid-axillary lines respectively. The *spleen* was not palpable and no distinct enlargement could be determined by percussion. The rest of the abdomen was normal to the ordinary methods of physical examination. The *bowels* tended to be loose and the stools rather foul. The *urine* on admission was acid in reaction and had a specific gravity of 1025. The tests for albumin, blood and sugar were negative and continued to be so during the whole period of the patient's residence in the hospital.

The examination of the *blood* gave the following results: Hæmo-

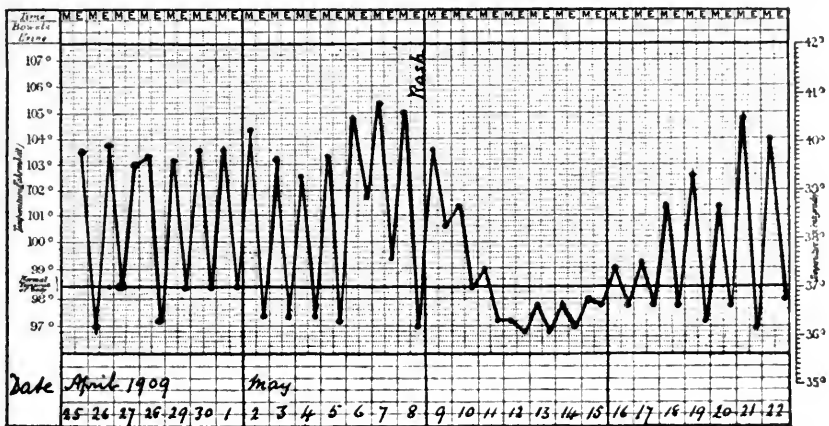


CHART 1, giving maximum and minimum temperatures.

globin, 65 per cent.; red blood-cells, 4,586,000 per c.mm.; white blood-cells, 13,000 per c.mm.; colour index, 0.7.

The examination of stained blood-films by Dr. Allan showed the absence of nucleated red cells, poikilocytes, and other forms of red-cell degeneration. The most remarkable feature in the films was the abundance of blood-platelets. A differential count of the leucocytes (400 counted) gave the following result: Polymorphonuclears, 71.25 per cent.; eosinophiles, 2.5 per cent.; lymphocytes, 13.25 per cent.; large hyaline and transitional forms, 13.0 per cent.

The course of the temperature was observed for several months. For a fortnight after admission to the hospital the temperature, though somewhat irregular, indicated no distinct febrile condition, but the observations had only been made night and morning. After

this the temperature, which was taken every four hours, showed the presence of high fever with marked remissions and intermissions, sometimes to the extent of seven or eight degrees, with a maximum of 104° to 105° F. Chart 1 gives the daily maximum and minimum temperatures from April the 25th to May the 22nd. Chart 2 gives similar temperatures from May the 23rd to June the 19th. Till the end of June the same variation in the temperature persisted. During July and August, when the child was not under my care, the temperatures were again only taken night and morning, so are not reliable in indicating the full variation throughout the twenty-four hours. During September and October four-hourly temperatures were resumed, but the oscillations were found to be much less than

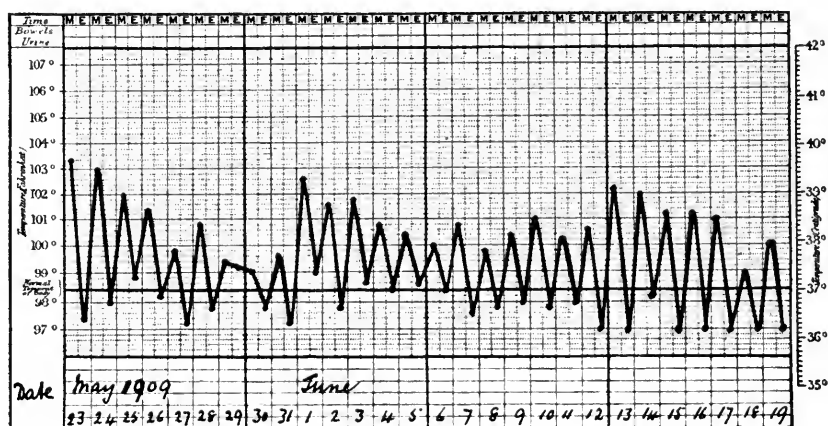


CHART 2, giving maximum and minimum temperatures.

in the earlier periods of the patient's residence. Chart 3 gives the maximum and minimum temperatures between September the 12th and October the 9th. This shows still some degree of irregular fever, but on the whole there is a marked improvement. During the most of the time of the great variations in temperature perspiration was frequent and profuse; as the temperature became more moderate these were not so marked. Another fact noted during the marked febrile period was the greater enlargement of the lymphatic glands. No variation, however, was detected in the size of the liver, spleen, or the joints of the limbs.

A *rash*, the exact clinical significance of which was doubtful, appeared on May the 8th—the day on which the most extreme oscillations in the temperature took place. The eruption was

composed of small discrete red spots, which at first appeared chiefly on the back and on the neck behind the ears. On the following day the eruption had extended practically over the whole body. On May the 10th the rash had perceptibly faded, and on the 11th had completely disappeared. By this time the temperature had fallen to subnormal, and did not again assume a distinctly febrile type until May the 18th, when the maximum recorded was 101.4° F. Accompanying the rash there was a little reddening from congestion of the throat, but there was no coryza. The rash was not typical of any specific fever and was not followed by any desquamation. As the child was getting small doses of quinine this was stopped as being a possible cause, but there was no other symptom of

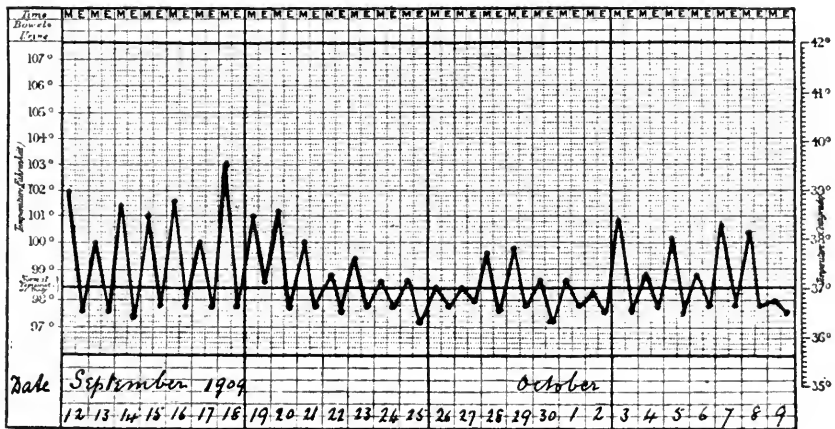


CHART 3, giving maximum and minimum temperatures.

cinchonism detected. No doubt the rash was the result of some unknown infection, and of a purely accidental character.

During the time the patient was in hospital a careful examination was made from time to time with the view of detecting whether or not there was any undoubted evidence of tubercle, but none such was found. *Calmette's ophthalmo-tuberculin* and *von Pirquet's* tests both gave negative results. I am indebted to Dr. Miller for determining the *opsonic index* to the tubercle bacillus. The results were: First examination, 1.0; second examination, 0.73; third examination, 1.3. The variation in the index is noteworthy, and in a patient acutely ill was certainly in favour of a tuberculous affection, but taken alone was scarcely sufficient to establish a diagnosis.

The course of the disease.—The patient was under observation

over six months. One of the most remarkable features of the case during this time was the febrile condition already described. With regard to the condition of the joints, the lymphatic glands, liver and spleen, there was no great variation from what has been described. The joints remained in much the same condition throughout; they became a little more stiffened and more flexed. The right elbow, the only one of the joints of the limbs unaffected, became also involved soon after the patient left the hospital. The lymphatic glands, which had increased during the periods of excessive fever, subsided again as the fever diminished, but they still remained enlarged and easily palpable. The liver remained enlarged, but the spleen throughout was never palpable.

The *treatment* included the administration of arsenic, quinine, thyroid gland, malt and cod-liver oil, etc., but no special effects were noted as being due to these.

The diagnosis.—The condition may be characterised as a chronic polyarthritis in spite of the fact that the presence of the remittent fever described indicated probably an acute infection. As far as the joints are concerned the condition has been a gradual and progressive one. Excluding such definite forms of joint affection as the tuberculous and syphilitic, there are found among children several other forms of arthritis which may be grouped under the general designation of chronic polyarthritis. Among these are those cases which are the outcome of true rheumatism, and may be recognised clinically by the history of acute or subacute attacks of articular rheumatism preceding the more chronic condition and by the improvement that occurs, during these attacks, from the administration of salicylates. These cases may present other manifestations of rheumatism, but show no enlargement of the superficial lymphatic glands or spleen.

Then, again, some cases present the features of rheumatoid arthritis as it is commonly met with among adults, but in my experience this is a rare condition in children. In these cases bony changes are marked, and include osteophytic outgrowths, which are easily felt. The cartilages, too, become eroded, and the articular surfaces of the bones hard and polished. This gives rise to coarse grating on passive movement of the joints.

Another group of cases has been described by Still, and it is to this class that the case under consideration belongs. Here the changes in the joints are chiefly periarticular, and are accompanied by enlargement of the superficial lymphatic glands and of the spleen. Usually at some period in the progress of the case fever is present.

In this case the fever has been unusually well marked but the spleen is normal, while on the other hand the liver is markedly enlarged.

Lastly, there is a large group of cases more indefinite in character where the changes in the joints, without enlargement of the lymphatic glands, spleen, or liver, are the chief features of the clinical condition.

The exact *etiology* of all these cases except those of true rheumatic origin is still unknown. They are no doubt the result of an infective process which may be more apt to occur under some conditions of life than others, the infective agent being probably not the same for all. What the organism is, and whether through the general circulation it affects the various joints and other organs directly, or simply as the result of a toxæmia, are questions which have still to be answered.

THE INFANT OUT-PATIENT FROM A PUBLIC HEALTH STANDPOINT.

By E. H. R. HARRIES, M.D. (State Med.) Lond., D.P.H. Liverpool,
*Resident Medical Officer, City Hospital, Fazakerley, Liverpool; Late
Senior R.M.O., Victoria Hospital for Children, Chelsea, S.W.*

THE following observations were made in the course of the ordinary routine work of a resident at a children's hospital, and I would at the outset express my obligations to those members of the Honorary Out-patient Staff of the Victoria Hospital who allowed me to make use of some of their cases.

By the collection of certain data on the first appearance of the child at the Hospital, it was thought that perhaps some interesting facts might accrue.

The cases, although necessarily limited in number (360), form a fair sample of the types of ailing infants brought to the Out-Patient Department. Beyond ensuring that the children were under twelve months of age (and hence in the "infant mortality" sense truly "infants"), and that it was the first visit to the Hospital, no sort of selection was employed.

The details, weights, and measurements were personally obtained and entered on a schedule prepared for the purpose.

For some of the points in the schedule I am indebted to the one given in Dr. Newman's book.*

* Newman, 'Infant Mortality.'

The cases under consideration were collected between July the 20th and November the 3rd, 1908, and thus embraced practically the whole of the "epidemic diarrhoea" season of that year, and chiefly came from Battersea, Chelsea, and Fulham. The social position of the parents varied from that of the hawker, rag-sorter, and casual labourer, to the bus-conductor and mechanic. On the distaff side "own housework" was very frequently given as the occupation during pregnancy and after, although a certain number of the mothers were engaged in industrial occupations not uncommonly right up to the time of confinement. Many of the fathers were out of work; some unavoidably so, others with intent and professionally. A somewhat paradoxical benefit to the child resulting from the lack of work on the part of the father was the inducement to continue breast-feeding as being the cheapest form of nourishment; but it is to be feared that the quality of the milk afforded by the starved mother was open to question, and accounted for a certain number of what may be termed breast-fed failures.

A certain proportion of the children of course were illegitimate, and several instances of the need for inspection of the "single" nurse-child were noted. Since that time the Children's Act has come into force, and the lonely infant-boarder has been given at least an equal chance of survival with the hitherto luckier "more than one" of the Infant Life Protection Act of 1897.

The difference between the inspected and uninspected foster-mother was very noticeable as regards personal cleanliness and cleanliness of the adopted offspring. Of their methods of feeding the unfortunate child entrusted to their care by a sometimes "fond," but frequently relieved parent, the less said the better. The "single-child" foster-mother has been brought under control.

Approximately 16 per cent. of the mothers had had miscarriages or premature births, or both.

It was found that almost two thirds of the confinements of which the child brought to hospital was the result were attended by midwives (a few being in lying-in hospitals or poor-law infirmaries), the remainder by doctors.

Of the 360 cases investigated, there were: Males, 203 = 56·38 per cent.; females, 157 = 43·62 per cent.; and of these 360, 322 (or 92·2 per cent.) were full time, 25 (7·78 per cent.) were premature, and in 3 the foetal age was not obtainable.

The late Dr. Farr gave a percentage of 7 for premature births, taking all children born.

An endeavour was made to ascertain the weight of the child at

birth. Some of the figures given were obviously legendary or invented on the spot, but excluding these it was found that 121 full-time children were definitely weighed at birth. The average weight of these worked out at 7·7 lb., but the figure is of no value on account of the smallness of the number under consideration ; the possibility of inaccuracy of scales or balance ; partial clothing of the child ; and enthusiasm on the part of the observer.

Nevertheless, the fact that so many of the poorer-class infants are being weighed at birth is a good sign of the times. The weighing is usually done by the midwife with a spring balance. One weighed and measured all the infants at the time their "natural history" was taken, but although the figures obtained are individually interesting, they only lead to the well-known conclusion that breast-fed children are infinitely superior in development to those brought up by artificial means.

* This question of the breast-feeding of children has always been a leading one in the investigation of infant mortality, and it is interesting in this connection to recall that as far back as the days of Queen Anne, Steele contributed to the 'Spectator' a paper dealing with the subject.*

The soundness of the views expressed and the delightful quaintness of the diction tempt one to quote a portion here :

"MR. SPECTATOR,—As your Paper is part of the Equipage of the Tea-Table, I conjure you to print what I now write to you, for I have no other Way to communicate what I have to say to the fair Sex on the most important Circumstance of Life, even the Care of Children. . . .

"Give me Leave . . . to tell you that of all the Abuses that ever you have as yet endeavoured to reform, certainly not one wanted so much your Assistance as the Abuse in nursing of Children. . . .

"I beg of you for the Sake of the many poor Infants that may and will be saved, by weighing this Case seriously, to exhort the People with the utmost Vehemence to let the Children suck their own Mother, both for the Benefit of Mother and Child. For the general Argument that a Mother is weakened by giving Suck to her Children is vain and simple ; I will maintain that the Mother grows stronger by it, and will have her Health better than she would have otherwise ; She will find it the greatest Cure and Preservative for the Vapours and future Miscarriages much beyond any other Remedy whatsoever. Her Children will be like Giants, whereas otherwise they are but living Shadows and like unripe Fruit ; and certainly if

* 'Spectator,' No. 246, December the 12th, 1711 (Steele).

a Woman is strong enough to bring forth a Child she is beyond all Doubt strong enough to nurse it afterwards. . . .

"I am not ignorant that there are some Cases of Necessity where a Mother cannot give suck . . . but there are so very few that I am sure in a thousand there is hardly a real Instance."

The latter opinion (possibly medically inspired) of the eighteenth century man of letters is amply borne out by modern observers.

In an article on "Ability to Nurse,"* it is stated that, "in energetically and systematically conducted lying-in hospitals all mothers can nurse their babies equally well, and for the most part women are not prevented from nursing their children by any inability to do so, but for a variety of reasons." The writer gives tuberculosis as the only absolute contra-indication, and even then is inclined to make exceptions.

In connection with the present cases a definite history of phthisis was obtained in fourteen of the fathers and ten mothers. Of the latter three were suckling their babies.

Vidal,† during three years, has only had to tell a mother once that she had not enough milk. Burnet‡ cites the ignorance of the average mother as regards nursing her child, and her readiness to remove the child from the breast, and "that in too many cases at the suggestion of the medical attendant."

The medical officer of health for Blackpool § states that "monthly nurses and midwives are too ready to assume that the mother's milk is insufficient, and that it is necessary to use some patent food which has been sent to the midwife by an advertising firm."

In the course of questioning the mothers one came across a particularly pernicious variant of this form of commercial enterprise. It took the shape of house-to-house visits by a woman alleged to be a hospital nurse, who pressed free samples of a preparation upon nursing mothers, persuading them that the said preparation was an improvement upon the breast milk. On the other hand there can be no doubt as to the influence for good of the genuine health visitor; and it speaks much for the tact of these ladies that one heard nothing but appreciation of their efforts. Their endeavours in the direction of promoting breast-feeding or, failing that, the use of a rational type of feeding-bottle, were especially noticeable.

Since the well-known investigations of Dr. Hope, of Liverpool,

* Pfaundler and Schlossmann, vol. i.

† 'Brit. Med. Journ.,' April the 24th, 1909, p. 1026.

‡ Burnet, 'Practitioner,' April, 1908.

§ 'Ann. Rep.,' 1907, quoted in 'Lancet,' October the 10th, 1908, p. 1096.

into the relation between artificial feeding and mortality from epidemic diarrhoea, there have been many estimations by various medical officers of health into the proportion of infants breast-fed and fed by other means. The figures obtained in the present cases are not comparable because their total is small and they represent a selected class of children, viz. *sick* children. But taken by themselves they show that improvement is taking place, and that among the poorer classes, at any rate, a large percentage of the mothers is making an earnest attempt to suckle their children in spite of undoubted economic difficulties in many cases.

The following are the figures obtained for two main classes :

- (1) Number of babies fed entirely at
the breast for one month or more = 256 = 71·1 per cent.
- (2) Number of babies who had never
been breast fed . . . = 46 = 12·77 „

The remainder were composed of breast-fed children under one month ; children who had been fed for a few days on the breast, and then put on some form of artificial food, and those children who were on “ mixed ” feeding, *i. e.* breast and some other form of food. The latter were usually “ crèche ” children, the mother being employed all day, but performing her maternal duty in the early morning and at night : or else a real or supposed deficiency of milk was being eked out by the bottle.

Thus 71 per cent. of the infants had been given a fair start in life by being fed entirely on the breast for one month or more.

It may be interesting to analyse those cases which had never been fed on the breast at all—forty-six in number.

(1) *Reasons given for never Breast-Feeding.*

(a) Mother died in child-birth	3
(b) Illness of mother	4
(c) Lost milk through worry—“ worried milk ”	1
(d) Nurse children	6
(e) “ No milk. ”	19
(f) Disease of breast	3
(g) “ Child unable or refused to suck ”	4
(h) “ Milk no good ”	2
(i) No reason assigned	2
(j) “ Violence of husband to mother and child ”	1
(k) Deliberately “ dried up milk with belladonna plasters ”	1

(2) *Conditions for which the Children were brought up.*

Wasting	14
Diarrhœa and vomiting	13
Constipation.	4
Rickets	2
	<hr/>
	33
Pertussis	3
Skin lesions	2
Congenital defects	8
	<hr/>
	46

Thus 33 out of 46 were suffering from defects of nutrition.

Taking the whole number of children (360), two tables may be constructed showing the conditions for which they were brought to hospital.

(1) *Conditions in 178 purely Breast-fed Children at all Periods.*

Diseases of nutrition.	Wasting	19
	Diarrhœa (not zymotic)	7
	Diarrhœa and vomiting (zymotic)	18
	Constipation	10
	"Indigestion"	12
	Rickets	1
		<hr/>
		67=32 percent.
	Simple cough (no physical signs)	19
	Bronchitis	5
	Pertussis	21
	Congenital defects (chiefly surgical)	37
	Injuries	2
	Skin lesions	9
	No obvious disease	18
		<hr/>
		178

(2) *Conditions in 182 Children artificially fed at time of Visit to Hospital.*

Diseases of nutrition.	Wasting	53
	Diarrhœa (not zymotic)	20
	Diarrhœa and vomiting (zymotic)	46
	Constipation	11
	"Indigestion"	2
	Colic	2
	Rickets	7

141 = 77·4 per cent.

Simple cough (no physical signs)	5
Bronchitis	1
Pertussis	9
Congenital defects (chiefly surgical)	14
Strangulated hernia and wasting	1
Diphtheria	1
Skin lesions	7
No obvious disease	3

182

Thus it will be seen that out of an almost equal number of cases in the two classes more than double the number (77·4 per cent.) among the artificially fed children were brought up for diseases of nutrition (chiefly wasting and diarrhœal diseases) as compared with those (32 per cent.) in the purely breast-fed class. And in this latter class, in the majority of cases the digestive disturbance was set up by irregular or too frequent feeding at the breast.

The cases of epidemic diarrhœa among the breast-fed children one believes to be largely due to the universal employment of the "comforter." The most elaborate attempt at cleansing this article after a fall on the floor of the out-patient room was a preliminary insertion in the mother's mouth, possibly full of septic stumps. Newman* writes: "There can be little doubt that comforters and the long tubes of milk bottles are two sources of much disease."

Maynard Heath† reports a case of suppurative parotitis in an

* *Op. cit.*, p. 247.

† 'Lancet,' 8, viii, 1908.

infant, due, he supposes, to an "exceedingly dirty comforter."
 . . . The child was breast-fed and otherwise healthy, and there was no disease of the mother's nipple.

Up to the present there has been no legislative interference in England with the form of infant feeding, but more than one attempt has been made in France—faced as it is with its constantly declining birth-rate—to prohibit the long-tube bottle.

The French Senate recently recommended a penalty of 20 to 100 francs for the first offence and imprisonment in case of a repetition.*

Newman † states that in Sweden, in 1793, a pamphlet was distributed on the 'Nursing of Infants.' At the same time a Royal edict "prescribed a fine . . . for mothers, who by neglecting to suckle their infants for at least half a year had caused the death of the infant." In the present cases the type of bottle employed was inquired into in 136 instances of artificially fed children, with the following results :

Boat-bottle of some pattern was used in	100	=	73·5	per cent.
Long tube	33	=	24·3	„
Spoon-feeding	3	=	2·2	„

100

This is an extremely large proportion of boat bottles, and is in all probability another sign of the influence for good of the health visitor. Returns from various parts of the country differ enormously in the percentage of the types of bottle used, but in the references one has obtained the "long-tube" variety has always preponderated. Newman ‡ says that in Birmingham, in 1904, 79 per cent. of infants under six months dying in the third quarter of the year were bottle-fed with tube bottles, and 21 per cent. with boat bottles.

A "correspondent," § writing of the condition of the infants of the South Wales colliers, says, "the bottle in 90 per cent. is that with half a yard of narrow rubber tubing."

But one believes that the "long-tube" variety is at last falling into disuse.

In several instances in which it was being employed the fact was elicited from the mother that it had been bought at a "penny bazaar," and in a poor quarter of Liverpool a short time ago one

* 'Brit. Med. Journ.,' October 2nd, 1909, p. 993.

† *Op. cit.*

‡ *Op. cit.*

§ 'Brit. Med. Journ.,' September the 12th, 1908, p. 780.

saw a "job lot" of these bottles for sale at a penny each in a chemist's window. So evidently the makers find there is no longer a sale on ordinary terms, and are getting rid of surplus stocks at any price.

Unfortunately it is the poorest and presumably least resistant infant who will have to endure the results of these bargains.

The prevailing state of mind of the mother who sees that her bottle-fed baby is not thriving appears to border on panic. She rushes wildly from one food to another, and the unfortunate child is tried for two or three days on a patent mixture recommended by a neighbour, only to have it changed—at the behest of another neighbour or the local chemist—for another certain success. Meanwhile the infant wastes with more or less rapidity, and the maddened intestinal tract is driven to revolt and to reject everything "fore and aft." A few typical histories of "wasters" may be given:

CASE 1.—F. D—, full-time male, aged $6\frac{1}{2}$ months. Breast to four months. Weight then was 21 lb. Since then has been fed on cow's milk and barley water, and for the last *month* on barley-water only. Present weight, 14 lb. 4 oz. Diarrhœa and vomiting. Boat bottle. Father, dock labourer; mother does outside housework. There was apparently some excuse on economic grounds for removing the child from the breast.

CASE 2.—G. C—, full-time female, aged 5 months. Fed on (1) breast for two weeks; (2) cow's milk and barley-water; (3) condensed milk and barley-water; (4) "X" malted milk; (5) milk, lime-water, and "soda." Wasting and diarrhœa. Boat bottle. Father, butcher, wages 26s., and rent 6s. Only child. Mother (primipara) does own housework. Both parents healthy. Mother said to have "lost milk." Weight when brought to hospital 9 lb. 15 oz.

This case affords an example of the common practice of frequent changes of foods by inexperienced mothers.

CASE 3.—A. D—, full-time male, aged 10 months. (1) Breast one week; (2) condensed milk and water one month; (3) cow's milk and barley-water; (4) condensed milk again. Wasting; long-tube bottle. Father, carman; mother machining. "Milk went"; lost four babies; two children living.

The type of mother who regards each addition to the cemetery as experience gained in the bringing-up of children.

CASE 4.—J. G—, full-time male, aged 4 months; 7 lb. 5 oz. at birth. First child, born in lying-in hospital; breast-fed for one month, at which time mother left hospital and gave up breast-feeding, although she had plenty of milk. Father died in epileptic fit and

mother has to work. Since breast has had cow's milk and barley-water and then a patent food. Wasting; present weight 7 lb. 10 oz. Boat bottle. The child had gained 5 oz. in weight in the four months of its existence.

CASE 5.—C. B—, full-time female, aged 14 weeks. (1) Breast two weeks; (2) condensed milk and barley-water; (3) "humanised milk." Wasting, weight 7 lb. 7 oz. Boat bottle. Fed every one and a half hours. Father healthy; mother "healthy." Four children alive. Eight miscarriages, and one premature child. "No milk."

CASE 6.—E. C—, eight months' child, now aged 5 months. (1) Breast for two days; (2) cow's milk and water; (3) "Y" food and water; (4) cow's milk and water and cream. Wasting; weight 6 lb. 3 oz. Boat bottle; fed two-hourly. Mother had plenty of milk, but considered that the breast was too much exertion for the child. Father, bus conductor, wages 26s., rent 6s. One other child.

There can be little doubt that all these children would have remained healthy and well nourished if they had not been deprived of their natural food by the ignorance, laziness, or economic necessity of the mother.

Various health organisations are combatting the first two points, and perhaps in the future something adequate may be done in England with regard to the third.

In conclusion, I cannot claim anything very original for this paper. It represents a fragmentary contribution to the urgent question of infant mortality, as viewed in the out-patient department of a children's hospital.

The Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, April the 22nd, 1910.

Dr. MILNER BURGESS *in the Chair.*

Three Cases of Oxycephaly.—Dr. ROBERT HUTCHISON showed three children, aged respectively 1, 5, and 4 years. They all showed the typical oxycephalic head. Two had exophthalmos, while the other had the eyes wide apart and divergent. All three showed congenital deformity of the fingers.

The cases were discussed by Dr. MORLEY FLETCHER, who gave it as his opinion that the condition is due to a developmental defect, and not secondary to an abnormality of the brain.

Dr. SUTHERLAND agreed with this view of the cases, and Dr. PARKES WEBER also spoke.

Dr. HUTCHISON, in reply concerning his first cases, said he had always supposed—though it was largely guesswork—that the optic atrophy was due to pressure on the optic nerve where it entered the orbital cavity; and Dr. Keith thought this view was borne out by the specimen now shown, where it passed at the back of the orbit; *i. e.* that it was a mechanical effect. He agreed with what Dr. Sutherland said about the pathology; he did not regard it as a brain condition, but a bone mal-development. He thought the conception of the condition should be widened. He agreed as to the unfortunate name of the condition, and another name which had been given was “acrocephaly.” Both terms were too limited, and he was sure many people with tower-shaped skulls did not belong to that group at all; such were the cases mentioned by Dr. Parkes Weber, for otherwise they were all right. Photographs handed round by Dr. Shuttleworth were of cases of that sort. He had seen them after prolonged labour, and they were apt to occur in face presentations. The skull was drawn out to a point upwards and backwards, and if it was sufficiently marked that might persist. That was oxycephaly in the strict sense of the term, but such cases had not the other conditions, including changes in the digits, which made up the picture of oxycephaly. The way to regard the condition was that it was an early developmental condition, and not primarily affecting the brain. The digits and some of the skull bones were comparable to those in Mongolism, and the optic atrophy and proptosis were mechanical results of the shallow orbital cavity, throwing the eye forward, and kinking the optic nerve and producing atrophy. What it was that caused this, he did not know.

A Case of Speech Defect in a Child of 7½ Years.—Dr. HUTCHISON showed this child, who had never talked, but there was reason to believe that the child was not a deaf-mute but could hear to some extent. He raised the question as to whether the speech defect was the result of the deafness, or whether he belonged to the group of idioglossia conditions. He did not believe the case belonged accurately to either. He was not profoundly deaf. He did not speak in any language at all, but made inarticulate sounds.

Dr. SHUTTLEWORTH said the case was very interesting, because it was very difficult to determine how far the boy was deaf, and how far he compensated by the activity of his sight for what might be defective otherwise. He was a smart boy, and although he said only a few sounds, he made them more intelligently when he noticed the lips of the speaker. When Dr. Hutchison hid his lips while speaking, the boy's repetition was far less adequate than when he could see the lips. One case which he saw was brought from Australia, and he went to see Dr. Still. He, Dr. Shuttleworth, saw him subsequently, and both he and Dr. Still thought the boy was not deaf, but was rather mentally defective. He was sent to a private school for mentally defective children. It was difficult to test the boy, as he had so much mental irritability. The parents were sure he could hear well, because they could get him to do anything they wanted. That was true, but it was afterwards found that the boy was depending on his sense of sight, and had unconsciously trained himself to lip-reading. But

one could make the greatest noise behind him, such as dropping the fire-irons, and he would not turn round to look. He proposed to have the boy examined by an aural surgeon. No doubt it would be necessary to teach the boy in the same way as a deaf-mute. When the eye excelled the ear in grasping the meaning of words, it was generally necessary to adopt some modification of teaching by the aural method.

Dr. LANGMEAD asked whether word-deafness had been considered in the case. He believed there had been no cases in which the child could not speak at all; but there were cases in which there was no deafness and the child was reasonable in every way, but had not the capacity of speech, probably on account of a non-development of the motor speech centres of the brain. One came across such cases now and again in the routine examination of school children.

Dr. HUTCHISON replied that he had considered the question of congenital aphasia, but he put it aside in this case because every now and again the boy said a word. But there must either be a proper speech centre in the brain or none at all; there could not be a half-way house.

A Case of Congenital Scoliosis.—Dr. LANGMEAD showed a girl, aged 10 months, who had a sharp bend to the left in the dorso-lumbar region of the spine. A skiagram shows this to be due to an additional wedge-shaped bone interposed between the last dorsal and first lumbar vertebræ of congenital origin.

Dr. POYNTON said that such a case was of great interest. Sometimes there was an absence of the lower ribs and a corresponding shortness of the chest in children, which caused that very puzzling dulness at the base that led to the idea that there might be an empyema. Some cases of scoliosis in infants were very difficult to unravel, and spinal caries was not easy to recognise. It was interesting that there was a tuberculous history in the case which had spinal caries. It was a very brilliant diagnosis.

A Baby with Blue Patches on the Buttocks and Lumbar Region was shown by Dr. LANGMEAD. He pointed out that this pigmentation is a racial characteristic in Japanese and half-caste babies. There was some doubt as to the nationality of the child's grandfather.

Dr. G. PERNET said that such areas of pigmentation on babies were so well known that it was not necessary to say much about them; and they were found in Japanese babies. He did not know whether any member had come across, in adult Japanese, cases with marks looking like superficial atrophies, and if so, whether they were the result of those old pigmentations. He had not found them on the buttocks after injections, but had found superficial atrophic conditions which might be the remains of those old patches.

Dr. G. A. SUTHERLAND said he thought the important point was whether the pigmentation of a Mongolian type had occurred in a pure English child or not. There had been shown a Japanese baby with the typical spots; and Mr. Arthur Edmunds had shown a pure-bred English baby with similar spots. A few cases of the kind had been described among English babies, and some in German children. The point to clear up was whether the present child was pure English-bred or not. It appeared not to be so, as the Japanese characteristics were so marked. He believed it was simply an old family characteristic coming out in the child.

Dr. MORLEY FLETCHER asked Dr. Langmead, with regard to the blue patches occurring in Mongolians, how many weeks the patches persisted.

A Case of Juvenile General Paralysis, with loss of Knee-jerks.—

Dr. MILLER showed the patient, a boy, aged 14 years, who exhibited the characteristic symptoms. There were no signs of inherited syphilis, but a positive serum reaction had been obtained. The speech defect seemed to be of the type found in an early case of general paralysis of the adult. The boy had a temporary hemiplegia, which cleared up.

A Case of Lymphadenoma starting at the Twenty-fifth Month

was shown by Dr. MILLER. The child was aged 3 years. Six months previously a gland, which on microscopical examination appeared to be lymphadenomatous, had been removed from the neck. There had been a steady increase in the size of the glands. The white cells in the blood numbered 6800, and showed a slight excess of lymphocytes.

Dr. R. HUTCHISON said the case was very interesting because the condition had commenced so early. At one time he took a great deal of interest in lymphadenoma in children, and collected a fair number of cases, though he could not recall one which commenced so young as this. He thought there was no doubt about the diagnosis: it ran the typical course, beginning in the neck and then extending to the spleen. The microscopical section and the blood-count were compatible with such a condition. There was not much to be said about treatment. There did not seem to be much to gain by cutting the glands out, though he had often seen it done. Invariably the condition had recurred after that operation, either in the same spot or elsewhere. If the spleen was also enlarged there was nothing to be gained by operation. He had known the glands subside under arsenic for a time, especially where the glands were soft, as they were in the present case. X rays in conjunction were also good. Such cases usually progressed and often became secondarily invaded with tubercle.

Dr. SUTHERLAND pointed out the great difficulty of diagnosing between this condition and tuberculosis; while Dr. POYNTON stated that cases of congenital syphilis were sometimes mistaken for lymphadenoma.

A Case of Congenital Acholuric Jaundice was shown by Dr. PARSONS. The patient, a boy, aged 8 years, had been yellow from birth. There was no other case of jaundice in the family, and no specific history. The spleen was uniformly enlarged. The temperature was 100° F., and the blood-count showed marked anæmia. Hæmoglobin, 28 per cent.

Drs. S. POYNTON and PARKES WEBER discussed the case.

A Case of Inherited Syphilis was shown by Dr. PARSONS.

A Case of Sarcoma of the Right Kidney.—Mr. HOWELL EVANS showed an infant suffering from sarcoma of the right kidney.

Mr. LOCKHART MUMMERY said the interest of the case was in connection with the so-called sign of the kidney not moving with respiration. But that was no criterion in children where there was a large tumour, because the kidney did move with respiration. It did in the present child, and in one he saw recently.

A Paper on Eighty Consecutive Cases of Wasting Infants Fed on Undiluted Citrated Milk was read by Dr. LANGMEAD, which was discussed by Dr. SPRIGGS, Dr. POYNTON, Dr. CARTER, and Dr. MILLER.

Provincial Societies.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

April the 8th, 1910.

Dr. J. B. HELLIER, President, in the chair.

A Case of Double Glaucoma.—Mr. CONSTABLE HAYES showed a boy, aged 17 years, with double glaucoma. About three months previously, while working below the surface in a pit, he noticed colours around the lights; shortly afterwards the sight gradually became affected. When he was first seen, three weeks ago, there was no injection, the tension in each eye was + 1, the anterior chambers were normal, there was glaucomatous cupping of each disc, and the pupils were semi-dilated. The pupils did not contract well under eserine. On March the 25th iridectomy was performed in the right eye. The tension remained — 1 for a week, but since then had gradually gone up again and was now about the same as before the operation. The patient's father, who had become totally blind from chronic glaucoma at the age of thirty, was also shown.

A Case of Congenital Thoracic Deformity.—Mr. G. PAUL ANNING showed a female infant, aged 8 months. Present weight, 12lb.; at birth, 4lb. 4oz. She was not a full-term child—probably eight and a half months. The labour was normal and quick. Presentation: left occipito-anterior. There was entire absence of the mammary gland and nipple on the left side. The sterno-costal portion of the pectoralis major and the whole of the pectoralis minor were absent. The chest-wall presented an excavated appearance on the same side. There was faulty development of the costal portion of the third rib, and during expiration the intercostal spaces were sucked in. The baby was well nourished and fairly strong, but she was apparently handicapped in breathing by the deformity. Respirations were shallow and quicker than normally and associated with an expiratory "grunt."

April the 22nd, 1910.

A Case of Asthma.—Dr. BRONNER showed a boy, aged 14 years, who had had attacks of asthma for ten years, more frequently during the last year. During the attacks there was more or less nasal obstruction, and there were frequent attacks of sneezing, often before the asthma commenced. He had been under medical treatment more or less the whole time. For two years he was under continued treatment at a local hospital. He was first seen on February the 10th, 1910. There was some thickening of the mucous membrane of the lower turbinates, and slight sticky discharge. The galvano-cautery was applied to the right lower turbinate and the right side of the septum. On February the 17th the left lower turbinate and the left side of the septum were burned. There had been no attacks of asthma since the last operation.

A Case of Congenital Heart with Transposition of Viscera.—Dr. A. G. BARRS showed a child, aged 2 years, with transposition of viscera.

There was also a congenital heart lesion; the child had always been cyanosed. The apex-beat was on the right side, internal to the nipple line; the liver was palpable on the left side. Over the whole præcordium there was a harsh systolic murmur, loudest in the pulmonary area.

Thoracostomy in Adherent Pericardium.—Dr. T. WARDROP GRIFFITH showed a boy, aged $9\frac{1}{2}$ years, suffering from adherent pericardium, in whom præcordial thoracostomy had been performed by Mr. Littlewood. He had been operated on for empyema five years ago. Swelling of the abdomen dated from Christmas, 1908; frequent tapping; under observation at infirmary fifteen months. Enlarged heart, with signs pointing to “adherent pericardium.” On March the 3rd, 1910, portions of the third, fourth, and fifth cartilages removed, along with left margin of sternum, with idea of lessening work of the heart (operation by Mr. Littlewood). He recovered perfectly from the operation, but there had been but very little improvement.

Nephrectomy for Congenital Hydronephrosis.—Mr. W. THOMPSON and Dr. GRIFFITH showed an infant, aged 10 months, in whom nephrectomy for congenital hydronephrosis had been successfully performed. The infant was seven weeks old when admitted, with a very distended abdomen. The tumour was tapped when the child was one week old and every four or five days since then. Congenital hydronephrosis was diagnosed and kidney removed. Recovery uneventful.

A Case of Hypertrophic Cirrhosis.—Dr. MAXWELL TELLING showed a case of chronic hypertrophic cirrhosis in a child, aged 8 years. There was a hard, enlarged, finely nodular liver. The child was anæmic and the skin faintly icteroid. Fingers clubbed and growth somewhat stunted. No evidence of congenital lues. Marked growth of hair on arms.

A Case of Linear Atrophy of the Skin.—Dr. MAXWELL TELLING showed a girl, aged 14 years, with linear atrophy of skin of second finger (morpheæ). This had been present since about second year, and looked like a verrucose linear scar.

Cases of Severe Keratitis.—Dr. E. F. TREVELYAN and Mr. MICHAEL TEALE showed three children in whom severe keratitis had been treated by tuberculin injections. In one case, a child aged 7 years, intense photophobia had existed continuously for two years before the tuberculin injections were tried, resisting both medicinal and operative treatment. The keratitis was of a peculiar interstitial type, clinically unlike the usual syphilitic form. Rapid improvement took place under tuberculin, and had been maintained.

LIVERPOOL MEDICAL INSTITUTION.

April the 7th, 1910.

Dr. BRADSHAW, President, in the chair.

A Specimen of Molluscum Contagiosum.—Dr. R. E. KELLY showed a specimen of molluscum contagiosum which was taken from the calf of a boy aged 11 years. It was alleged that the condition had been present since birth.

Sections of Retained Testicles.—Dr. D. MOORE ALEXANDER demonstrated sections of retained testicles removed from four patients aged respectively 8, 13, 24, and 36 years. The sections clearly showed that gradual fibrotic changes had occurred around the tubules and that degeneration had taken place in the cells lining the tubules.

Lungs in a Case of Acute Pneumococcal Septicæmia.—Dr. ERNEST E. GLYNN showed the lungs of a boy who had died from acute pneumococcal septicæmia. The duration of the illness was apparently only about five hours. There was no pneumonic consolidation of the lungs.

Acid-fast Bacilli in the Fæces.—Dr. F. P. WILSON read a note on the presence of acid-fast bacilli in the stools in tuberculous conditions, with special reference to lupus vulgaris. Recent work had showed that the presence of acid-fast bacilli in the fæces was not necessarily the result of tuberculous ulceration of the intestines or of the swallowing of sputum containing tubercle bacilli, as they had been found in cases of tuberculous diseases of the joints, lymphatic glands, and meninges. He had himself examined the fæces of ten cases suffering from lupus vulgaris by means of smears and also by injections into guinea-pigs, and in all the cases he had obtained a negative result. He suggested that further research might demonstrate the presence of the bacilli in cases of toxic tuberculides.

MIDLAND MEDICAL SOCIETY.

April the 20th, 1910.

Mr. FRANK MARSH, President, in the chair.

Eosin from the Urine of a Child.—Mr. L. C. S. BROUGHTON showed a specimen of eosin which he had extracted from the urine of a child, aged 9 years. The presence of the eosin was demonstrated by means of the spectroscope. On March the 2nd the urine was first noticed to be bright red; its colour remained unchanged for five days and then began to disappear, so that by March the 11th the urine was normal. The child, who was puny and naturally pale, was noticed to have an unusually red face while she was passing the urine containing eosin. Eosinuria had been described before, and in each case it had been traced to eosin taken in sweets or in food. In Mr. Broughton's case, however, the manner in which the eosin had entered the body could not be ascertained. Certain sweets that the child had eaten, and some toys that she had sucked, were examined for eosin, but no trace of it was found. Careful precautions were taken, which made it impossible for the eosin to have been added to the urine after it had been voided.

A Case of Adenoma Sebaceum.—Dr. DOUGLAS HEATH showed a bright, intelligent girl, aged 16 years, suffering from adenoma sebaceum. The eruption had started when the patient was four years of age. It consisted of small telangiectatic and pale pearly papules discretely scattered in the skin. The eruption affected chiefly the inner parts of the cheeks over

the naso-labial folds, the sides of the nose over the alae, and the chin. Over the naso-labial folds the bright red nodules were closely aggregated, giving this part of the cheek almost a uniform red appearance. One large circular nodule, a quarter of an inch in diameter, could be seen on the outer side of the right cheek over the jaw, and another similar red nodule, with three distended sebaceous openings, was situated on the left side of the neck one inch below the chin. The face was practically free from acne. A microscopical examination of one of the nodules showed a marked accumulation of fibrous tissue under the epidermis. Below this mass of fibrous tissue were large round areas of sebaceous gland-tissue. Serial sections will be sent to determine the relation (if any) of these sebaceous gland masses to the sebaceous glands of the part. No rudimentary hairs were visible in connection with the epidermis covering the nodules.

Specimen of Congenital Cystic Kidney.—Mr. LUCAS showed this specimen, which was taken from an infant, who had died at the age of eleven months. The mother had noticed that the child's abdomen was very large from birth, but it was not until two months before death that the enlargement was recognised to be due to a renal tumour. The tumour was so large and appeared to be so firmly fixed that the diagnosis of sarcoma of the right kidney was made, and an attempt to remove it by operation was considered unjustifiable, as the child was very weak and would probably not have recovered from the shock of so extensive an operation. The tumour was extremely large, filling the right side of the abdomen, extending well to the left of the middle line, and pushing up the liver. The specimen was a typical example of a congenital cystic kidney, some of the cysts being very large. There was no evidence of any renal substance remaining. The left kidney was enlarged, but appeared healthy. No cystic changes were found in any of the other organs.

A Case of Chronic Polyarthritis.—Dr. SAWYER showed a boy, aged 9 years, who was suffering from stiffness and swelling of many joints, associated with enlargement of the lymphatic glands and of the spleen. The boy had never had rheumatic fever, and there was no evidence of congenital syphilis. One brother had died from tuberculosis, but there was no evidence of the condition of the patient being tuberculous. The duration of the disease was about eighteen months. It began with stiffness in the knees, which soon became swollen, but never painful. This was followed by a swelling of the left elbow and by stiffness of the hip-joints. These were the only joints involved. The affected joints were not tender, but a little pain was experienced upon their movement. The swellings had at no time subsided, but had gradually increased in size. Some grating could be felt when the knees were being flexed, but appeared not to be produced within the joints. There was considerable wasting of the muscles of the legs and thighs, and this was more marked on the left side. There was limitation of the movements of the hip-joints, especially of the left, so that very little abduction and rotation were possible. The radiographs showed that the thickening was chiefly peri-articular, but slight bony changes seemed to have occurred in the head of the left femur. The lymphatic glands in the axillæ, neck, and groins were slightly swollen, and palpation of the abdomen suggested that the mesenteric glands also were enlarged. The spleen extended to the costal margin. The unusual features about the case were—(1) the late age at which the disease had commenced, as it nearly always makes its appearance before

the sixth year, and (2) the absence of any changes in the wrist and ankle-joints, which are usually more extensively affected than any other joints.

Dr. MELSON referred to a similar case in which he had found von Pirquet's reaction positive. This patient had also been under the care of Dr. Sawyer for some time, who contended that a positive reaction did not prove that the articular changes were tuberculous in origin.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

April the 1st, 1910.

Dr. NEVILLE WOOD, President, in the chair.

A Case of Congenital Dislocation of the Hip.—Mr. LAMING EVANS showed a child, aged 6 years, who had suffered from congenital dislocation of the hip, which had been replaced two years previously by manipulation. The original condition was shown by a skiagram, the trochanter being $1\frac{1}{2}$ in. above Nélaton's line. A second skiagram was exhibited which showed the present condition, with the head of the femur in the acetabulum. The leg was the same length as the other, and the child could jump and run without anything abnormal being noticed.

Abstracts from Current Literature.

Medicine.

A case of status lymphaticus ('*Arch. of Pediat.*,' vol. xxvi, 1909, p. 689).—G. R. Satterlee showed a case in a boy, aged 2 years, before the Section on Pediatrics, at the New York Academy of Medicine, in whom the diagnosis was made from the enlarged thymus, dyspnoea with inspiratory stridor, enlarged veins of neck and thorax, and convulsions which were preceded by a crying fit and accompanied by inspiratory stridor.

J. D. ROLLESTON.

Scarlet fever, rubella, and the fourth disease ('*Arch. of Pediat.*,' vol. xxvi, 1909, p. 649).—D. J. Milton Miller holds that a well-marked rash in scarlet fever without desquamation is possible though infrequent, and that the peeled strawberry tongue is sometimes absent in genuine cases of scarlet fever and is present in other conditions. He records cases which suggest the possibility of *rubella sine eruptione*, and agrees with Ker in regarding the existence of a fourth disease as non-proven.

J. D. ROLLESTON.

Congenital absence of pectoral muscles ('*Journ. de méd. de Bordeaux*,' 1909, p. 709).—Codet-Boisse. A boy, aged 10, was shown before the Soc.

d'Obstét. et de Pédi. de Bordeaux, who had complete absence of the pectoralis minor and middle and lower divisions of the pectoralis major on the left side. The upper portions of the pectoralis major were abnormally well developed. No other abnormalities were present. Congenital absence of the pectorals is almost always unilateral, and is equally frequent on either side. Only one case has been published of symmetrical absence (Reboul). Reference is made to Sawyer's case published in the *BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1909, p. 68. J. D. ROLLESTON.

Diphtheria of intestine (*Montreal Med. Journ.*, 1909, p. 515).—

R. E. McKechnie. A girl, aged 6, born in Fiji, was taken ill with symptoms of dysentery. She passed several blood-stained stools daily consisting of mucus and pus, which contained an enormous quantity of streptococci. These disappeared rapidly after treatment with antistreptococcic serum, but the symptoms persisted. Cultures of the stools subsequently showed organisms resembling diphtheria bacilli. Antitoxin was given with immediate improvement. Two days later a complete cylindrical cast of the bowel, four inches long, was passed, and proved on microscopical examination to be diphtheritic membrane. The knee-jerks were absent, and subsequently paralysis of the arms developed and lasted for a fortnight. Recovery was slow but complete. J. D. ROLLESTON.

Hæmoptysis in measles (*Journ. de méd. de Bordeaux*, 1909, p. 725).

—**P. Vergely.** A girl, aged 8 years, had a violent attack of coughing followed by abundant hæmoptysis in convalescence from measles. There were no hæmorrhages from any other mucous membranes. Nothing abnormal was detected on examination of the chest. The temperature was slightly raised for a few days. When seen five months later the child was in good health. J. D. ROLLESTON.

Purpura fulminans (*Arch. of Internal Med.*, vol. III, 1909, p. 193).—

C. A. Elliott. A girl, aged 8 years, with no family history of purpura or bleeding, died of purpura fulminans on the twenty-second day of a mild attack of scarlet fever within sixty-eight hours of the first appearance of purpura. Hæmaturia occurred on the day before death. The eruption had a symmetrical distribution. Gangrene of the toes and adjacent part of the feet with bullæ over the gangrenous area developed before death. Mental activity was retained till the last. Blood examination: Hæmoglobin 55—60 per cent.; red cells 2,720,000, white cells 65,400. Autopsy: Hæmorrhagic infiltration of pelvic fascia, submucosa of bladder and left ovary; two small hæmorrhages on surface of left lung; cloudy swelling of liver and spleen, and acute nephritis. Cultures from heart blood, serum in bullæ, and spleen pulp negative. A valuable review of the literature is appended. J. D. ROLLESTON.

Relation of duodenal ulcers to atrophic conditions in infants

(*Arch. of Pediat.*, vol. XXVI, 1909, p. 661).—**H. F. Helmholtz** thinks that duodenal ulcers are common in atrophic infants, having observed sixteen cases within six months. In comparatively few does the ulceration progress to the erosion of a vessel or perforation. The lesions may easily be overlooked at the autopsy. Their pathogeny is obscure. The pathological anatomy is the same as is the gastric ulcer of adults. Helmholtz records

seven cases in children whose ages ranged from one to seven months. In only three did the ulcers show any symptoms whatever. Diagnosis is rendered possible only by the erosion of a vessel or by peritonitis. Even wide-spread peritonitis may produce no symptoms, so that hæmatemesis or melæna may be the only indications of the condition. The prognosis is very grave not only on account of hæmorrhage and peritonitis, but because the reduced vitality of the child makes it very susceptible to pneumonia, and renders the feeding problem still more difficult. J. D. ROLLESTON.

Rupture of neck-vessels into pharynx in scarlet fever (*Glasgow Med Journ.*, 1910, p. 23).—J. H. Griffiths and D. F. Riddell record two cases of this rare complication. (1) Boy, aged 9½ years, developed cervical adenitis on the twenty-third day of a mild attack of scarlet fever. Three days later the right tonsil became swollen, and on the twenty-eighth day presented the appearance of a quinsy. Pressure with the finger-tip caused the swelling to break down, and this was followed by profuse and uncontrollable hæmorrhage. Death took place in about a minute. The autopsy showed an irregular cavity behind the right tonsil lined with laminated blood-clot. The outer wall of the cavity was connected with the internal jugular vein. Case 2: Boy, aged 3½ years. Death from arterial hæmorrhage occurred without warning on the twenty-second day of disease in convalescence from scarlatina anginosa. The autopsy showed two large breaking-down glands in the neck and involvement of the internal carotid in the ulceration.

J. D. ROLLESTON.

Morbilliform rash in vaccinia (*Ann. de Méd. et Chir. Inf.*, 1909, p. 567).—E. Gaujoux.—A nursing, aged 10 months, who had been successfully vaccinated a week previously, presented a morbilliform eruption, which was most marked on the lower limbs. The face was not affected. Temperature 99·2° F. There were no drug nor gastro-intestinal intoxication, and no erupting teeth. The child was the subject of congenital syphilis, and was also affected with retro-auricular eczema. Gaujoux rejects the diagnosis of syphilitic roseola, which is rare in nurslings, of slow evolution, and is always associated with glandular enlargement and mucous tubercles, which were absent in this case. The occurrence of the eruption is attributed to hepatic insufficiency and a special cutaneous irritability.

J. D. ROLLESTON.

The acquired venereal infections in children (*Johns Hopkins Hosp. Bull.*, May, 1910, p. 142).—Flora Pollack gives here a study of 187 cases of this nature, there being present gonorrhœa with or without syphilis. She states that nearly a thousand children are infected every year in Baltimore by men who have the idea that their affection will be cured by "passing it on." She institutes a vigorous campaign against this superstition which has such deplorable results. A useful analysis of the cases from many points of view is given. There were as many cases at the age of three as at the age of fifteen.

ERNEST JONES.

Epidemic cerebro-spinal meningitis and its treatment (*Gaz. des Hôp.*, August 14, 1909, p. 1159, and August 21, p. 1183).—R. Voisin gives an excellent general review of considerable length, and with an extensive bibliography. The recent work on the ætiology and treatment of the malady is fully described. The article contains no original matter.

ERNEST JONES.

A case of amaurotic family idiocy (*Med. Rec.*, November 13, 1909, p. 839).—**C. G. Kerley** presented this case before the New York Academy of Medicine. The patient was a Jewish boy, eighteen months old, and had been under observation since he was a month old. The reflexes were absent. The fontanelle was tense and bulging, but lumbar puncture disclosed nothing abnormal beyond an increase in the pressure of the cerebro-spinal fluid.

ERNEST JONES.

A case of diabetes in a child seven years of age (*Med. Rec.*, November 13, 1909, p. 839).—**D. Bovaird** showed before the New York Academy of Medicine a boy who three weeks previously had begun to pass an unusually large quantity of urine. He had extreme thirst and an insatiable appetite. He passed 4000 c.c. of urine daily; the quantity of sugar is not stated. The sugar rapidly disappeared when the patient was put on a carbohydrate-free diet.

ERNEST JONES.

A new sign in the lower limbs in the meningitis of children (*Gaz. des Hôp.*, December 7, 1909, p. 1746).—**L. Babonneix** describes Brudzinski's recently described "signe de la nuque." This is tested as follows: The child lies on his back with extended limbs; if the observer passively bends the head forward the lower limbs simultaneously flex. The sign is practically always present in meningitis, but is not pathognomonic of it; the kind of meningitis makes no difference.

ERNEST JONES.

A case of late scoliosis in infantile paralysis (*Gaz. des Hôp.*, July 1, 1909, p. 943).—**R. Gaultier** and **D. Baïsoin** relate the following interesting case: The patient, a man of thirty-two, had suffered from acute poliomyelitis at the age of eighteen months; this left him with a considerable atrophy of the left lower limb. At the age of sixteen he suddenly began to show a spinal curvature, which rapidly progressed for five months. It was most marked in the dorsal region, and the convexity of the curve was to the right. The authors discuss the diagnosis, eliminate juvenile scoliosis and static scoliosis secondary to the limb deformity, and conclude that the curvature was due to weakness of muscles affected by the infantile poliomyelitis. Other cases of the kind are known of.

ERNEST JONES.

A case of root paralysis, of Erb's type, of obstetric origin (*Gaz. des Hôp.*, May 18, 1909, p. 719).—**L. Babonneix** and **R. Voisin** describe in detail a typical case of this kind in a boy of ten. Forceps had been used at the labour. The right arm had been weak since birth. There was shortening of the arm, not of the forearm. Sensibility was normal.

ERNEST JONES.

The ocular affections of chorea (*Gaz. des Hôp.*, April 13 and 15, 1909, p. 523).—**L. Babonneix** and **L. Bernard** give a short review of the literature on this subject, and add an account of their own observations; these, however, were got by reading old notes, and not from a special inquiry. They have never seen iritis, and there has been only one instance of it reported. They saw conjunctival anæsthesia in fifteen out of twenty cases. In twenty-seven cases they saw mydriasis twice, inequality of the pupils twice, and hippus three times. Neither optic neuritis nor ophthalmoplegia was ever observed.

ERNEST JONES.

Infantile asthma (*Gaz. des Hôp.*, April 22, 1909, p. 566).—**P. Maurel** gives a general review of this subject, describing the typical form and the aberrant varieties, and discussing the diagnosis and treatment. The reader is referred to the original, as the article does not lend itself to an abstract.

ERNEST JONES.

A case of Mongolian idiocy (*Med. Rec.*, November 6, 1909, p. 772).—**A. L. Hellman** gives here a full account of a typical case. The patient was a boy of nine. Hellman lays stress on the delay in ossification, particularly of the carpal bones.

ERNEST JONES.

Cyclic vomiting in children (*Arch. de Méd. des Enf.*, October, 1909).—**Comby** gives details of 104 cases of recurrent attacks of uncontrollable vomiting in children. The attacks last for one or several days (the patient being apparently well in between), and are found in children generally between the ages of two and six years. The sexes are affected equally, fifty of the author's cases being boys and fifty-four girls. In six cases two or three members of a family were affected. In sixty-two there was a neurotic and gouty family history. Dyspepsia or some infectious disease frequently preceded the onset of the vomiting, but appendicitis was one of the commonest antecedents. Ten cases were fatal, and in these fatty degeneration of the liver and gastro-intestinal lesions were found. The attacks come on suddenly with constipation and great prostration. Vague abdominal pain is sometimes complained of. The temperature at times is high, but is not always raised. Comby found appendicitis in fifty of his cases, and he regards appendicectomy as the best means of stopping the vomiting. Treatment consists in giving alkalis to contract the evident acid intoxication, and during an attack lavage may arrest the vomiting. The author further advocates the administration of powders containing .25 grm. each of calcined magnesia, benzonaphthol and sodium bicarbonate with .01 grm. of powdered nux vomica twice a day for ten days at a time. The vomiting recurs every month in some cases and in others at longer or more irregular periods. A sweet or acid odour of the breath is present just before or during the attacks.

T. R. WHIPHAM.

The neck sign in meningitis (*Arch. de Méd. des Enf.*, October, 1909).—**Brudzinski** announces a new sign which is said to be even more constant in meningitis than Kernig's or Babinski's signs. It consists of a flexure of the ankle-, knee- and hip-joints on bending the head forwards, and was present in all but one of the author's forty-eight cases of meningitis of various organs. Increased pressure on the brain alone will not account for the sign, as it is not present in hydrocephalus and other abnormal brain conditions.

T. R. WHIPHAM.

Primary splenomegaly (*Amer. Journ. of the Med. Sciences*, June, 1909).—**Brill, Mandlebaum, and Libman** claim that splenomegaly of the Gaucher type is a distinct disease, which starts in early life, often affects several members of a family, and runs a chronic course. It is characterised by a great enlargement of the spleen, followed by a similar change in the liver. There is neither jaundice nor ascites. The skin is discoloured, especially where exposed. In the blood there are no special changes. The organs affected are the spleen, liver, lymphatic glands, and marrow, which histologically show large cells with small nuclei and a peculiar hyaline protoplasm,

and the presence of pigment containing iron. These cells arise from the endothelium or normal reticulum. The aetiology of the disease is unknown, though a susceptibility of the hæmatopoietic apparatus to some toxic agent is most likely present. There is nothing in the authors' two cases to suggest tuberculosis, and when this occurs in primary splenomegaly it must be considered as a superimposed process. The disease is not usually fatal in itself, death, as a rule, being due to some intercurrent affection.

T. R. WHIPHAM.

Herpes febrilis on the fingers (*'Brit. Journ. of Dermatol.,'* October, 1909).—**Adamson** saw four patients with this very unusual condition. The first was a boy, aged 5 years, who had periodical attacks of an eruption of vesicles on the thumb. It was thought that this was due to thumb-sucking, to which he was addicted, but it was observed that the eruption coincided with attacks of feverish cold, and that on one occasion the vesicles appeared on the forefinger, which was not sucked. The second patient was a boy, aged 4 years, who had a vesicular eruption on the back of the second joint of the left index finger. He was in poor health at the time, and also presented herpes labialis. The third was a girl, aged 8 years, who had an attack on the back of the right index finger during the course of an apical pneumonia. In the last, a girl, aged 9 years, repeated attacks of herpes had occurred on the dorsal surface of the fold between the first and second fingers of the left hand.

T. R. WHIPHAM.

Chorea a symptom—not a disease (*'Amer. Journ. of the Med. Sciences,'* September, 1909).—**Swift** maintains that chorea should be looked upon as a symptom in the same way as jaundice, convulsions, or dropsy, and not as a definite disease. Chorea may be divided into two classes. In the one the movements are a symptom of some infection, such as malaria, or with the pneumococcus, the *Bacillus typhosus*, or the *Micrococcus rheumaticus*, in many of which cases there is an accompanying heart lesion. Treatment depends upon the nature of the infecting organism, but absolute rest, both mental and physical, is essential. In the other group the cause is not so definite. The patients are usually young girls between seven and fourteen years of age. They are generally in a condition of bad health and anæmic, and have been subjected to some mental or physical strain. The condition is quite analogous to hysteria in older people. All the treatment necessary is rest, good feeding, and tonics.

T. R. WHIPHAM.

Diphtheria of the intestines (*'Montreal Med. Journ.,'* August, 1909).—**McKechnie** records the case of a girl, aged 6 years, who left Fiji for Germany. Shortly before leaving she was attacked with apparently mild dysentery. The condition persisted during the voyage of 2½ weeks, but was held in check by treatment, though the stools were small and frequent and contained blood, mucus, and pus. Enormous quantities of streptococci were found to be present and these disappeared under treatment with streptolytic serum, but the symptoms did not abate. Finally cultures showed bacilli of the diphtheritic type. Anti-diphtheritic serum was then used with immediate improvement, and two days later a complete cast of the bowel, about four inches in length, was passed. The child made a slow but good recovery. The cast microscopically was a true diphtheritic membrane. The knee-jerks were noticed to be absent, and later paralysis of the sphincter ani occurred so that for two weeks there was incontinence of fæces.

T. R. WHIPHAM.

Gastro-succorrhœa and pyloric stenosis in infants (*'Dent. med. Wochens.'* July 22, 1909).—**Engel** reports two cases of typical pyloric stenosis in infants in whom the condition had probably followed an excessive secretion of the gastric juice. He believes that "psychic gastric secretion" does not occur in infants less than a month old, and that large amounts of gastric juice present in an empty stomach are therefore abnormal. He further maintains that hypersecretion alone without hyperacidity is sufficient to produce a spasmodic contraction of the pylorus. The stenosis is at first purely spastic, as fluid food was previously able to pass through, but under the influence of spasmodic contraction the pylorus becomes hypertrophied, so that when the hypersecretion and the spasm have subsided its lumen is left a little smaller, and it may be several weeks before the normal conditions are restored. In both of the author's cases and in others recorded small intercurrent hæmorrhages occurred in the stomach, the presence of which produced profuse gastric secretion and repeated vomiting. His method of feeding was by the bowel alone. He inclines to the belief that a nervous disturbance is the origin of the condition—an isolated secretory anomaly.

T. R. WHIPHAM.

Acute diarrhœa in infancy (*'Virgin. Med. Semi-month.'* August 27, 1909).—In the treatment of acute diarrhœa due to fermentation in infants, **Nowlin** starts with a purge of castor-oil and follows this with ten to fifteen minims of a one grain to four ounces solution of perchloride of mercury every four hours until the stools became permanently yellow in colour. The dose is then decreased, just enough mercury being given to keep the stools normal. Food is withheld for the first twenty-four hours and then resumed as usual, the mercury being continued for a week or more. Irrigation is sometimes resorted to, but the author thinks that in this form of diarrhœa irrigation is often overdone.

T. R. WHIPHAM.

Urine in the gastro-intestinal diseases of infancy (*'Arch. of Pediat.'* August, 1909).—**Morse** and **Crothers**, from a study of 300 cases, find that albuminuria is present in from 8 to 10 per cent. of babies who are suffering from disorders of the intestinal tract, and that it occurs more often in acute than in chronic cases. Examination of the deposit shows that the lesion does not extend beyond that of cloudy swelling or active hyperæmia. Infection of the urinary tract resulting in pyelitis or pyelonephritis is far more common than acute parenchymatous or interstitial nephritis. In chronic cases there is no relation between the albuminuria and the symptoms or death-rate. In acute cases the mortality is higher when albuminuria is present than when it is not, though the presence of albumin in a given case does not materially affect the prognosis. The œdema which occurs in the course of gastro-intestinal affections is not connected with the condition of the kidneys, nor are such symptoms as restlessness, convulsions, or stupor; these are due to toxæmia, and not to uræmia.

T. R. WHIPHAM.

Defective and perverted thyroid functioning in children (*'Ann. de Méd. et Chir. Inf.'* August 15, 1909).—According to **Concetti** thyroid insufficiency is accountable for many conditions found in infancy, such as a tendency to fatness, to transient œdema, cold hands and feet, scanty and brittle hair, vasomotor disturbances, vomiting, somnolency, and poor resistance to infections. With artificial feeding the conditions become more pronounced, and eczema, urticaria, and delayed dentition are liable to occur.

Nurslings evidently receive in mother's milk some of the products of the mother's thyroid, and if there is any thyroid derangement in the mother or wet-nurse the hypothyroidism of the infant may be productive of severe consequences; thus if the mother has goitre the child may become myxœdematous. All children showing signs of insufficiency are cured by thyroid treatment and change of wet-nurse. In some cases the infants seem to suffer from alternate excess and deficiency of thyroid functioning. The thyroid treatment, therefore, should be given with caution.

T. R. WHIPHAM.

The question of lordotic albuminuria (*Dent. med. Wochens.*, August 26, 1909).—**Vas** has examined 150 girls between the ages of 9 and 14 years to determine the influence of curvature of the spine on orthostatic albuminuria. His investigations confirm those of Jehle (*v. BRITISH JOURNAL OF CHILDREN'S DISEASES*, vol. v, p. 268) on the whole, but they show that curvature of the spine is not the only cause, although it is an important factor in many cases owing to its interference with the circulation in the kidneys.

T. R. WHIPHAM.

Oxygen in whooping-cough (*Lyon Méd.*, August 22, 1909).—**Weill** and **Mouriquand** find that the administration of oxygen at the commencement of the paroxysms in whooping-cough is of service in warding off broncho-pneumonia and suffocation. The oxygen is given at each paroxysm and if possible just as it begins. The cyanosis subsides and the patient is relieved. The gas renders the lung aseptic and thus able to resist infection. It must be used freely, at least ten or twelve litres for every paroxysm, and if there is danger of broncho-pneumonia it should be inhaled every hour.

T. R. WHIPHAM.

Eclampsia in the new-born (*Zeit. f. Geburtsch. u. Gynäk.*, LXV, No. 1).—**Esch** states that in many cases of children borne by women suffering from eclampsia the organs presented the same change as those of the mother. Convulsions in new-born children can only be attributed to eclampsia when all other causes have been excluded. With the author's three cases the total number in the literature is thirty-two; in six of these, however, the mother had albuminuria alone without actual eclampsia. The first convulsion in the infant occurred in from a few minutes to forty-six hours after birth, and the attacks lasted from a half to ten minutes. The severity of the convulsion seems to be in inverse ratio to the severity of the eclampsia in the mother rather than in proportion to it. The infants were all at or near term, but the mortality was high. The treatment can only be symptomatic: small doses of bromide and chloral by the rectum and warm baths to promote the elimination of toxins.

T. R. WHIPHAM.

Ulcerative stomatitis (*Montreal Med. Journ.*, August, 1909).—**Cushing** reports cases which show the association existing between a mildly contagious form of ulcerative stomatitis and the organisms of Vincent's angina. The patients were children between three and eight years of age, the inmates of institutions, all of whom suffered from mal-nutrition. The disease was somewhat infectious and began as a small superficial ulcer at the margin of the gums, which sometimes extended as an adherent false membrane on to the cheek, tongue, or fauces. There was a characteristic fetid odour, and mild constitutional disturbance with enlargement of the neighbour-

ing lymphatic glands. Smears showed the presence of the organisms in great numbers. Recovery occurred in one to three weeks under the administration of potassium chlorate internally. T. R. WHIPHAM.

Influenzal meningitis (*Archiv of Intern. Med.*, October, 1909).—**Davis** saw twin brothers who became ill on the fifth day after birth, and died respectively on the ninth and eleventh days. The two cases were similar, but there was no distinct evidence of meningitis. A necropsy on the first child showed acute purulent meningitis and acute enteritis. Both from the meninges and from the peritoneal fluid pure cultures of *B. influenzae* were obtained. The usual entrances of infection—the nose, tympanic cavities, lungs, bronchi, and throat—were normal and the umbilical cord was unaffected. T. R. WHIPHAM.

Congenital pyloric spasm (*Journ. of Amer. Med. Assoc.*, November 20, 1909).—In the treatment of this condition **Miller** advocates that sufficient time should be allowed between the feeds for the stomach to empty itself. This can be determined by noticing the latest period after a feed at which vomiting occurs, and also by the use of the stomach-tube employed for gastric lavage. In some cases it is necessary to make the intervals between the feeds as much as four hours. If vomiting occurs about or just before the time for feeding the meal should be postponed for half an hour. Breast milk is the ideal food for these infants, but if the fat is not well tolerated it should be removed by centrifugalising. Whey, followed later by the addition of cream or butter-milk, may also be used, and it is of advantage to alkalise it with 25 to 33 per cent. of lime-water to neutralise the acidity and render the casein more soluble. **Rosenhaupt** (*Deut. med. Wochens.*, October 14, 1909) lays stress on the specific action of rectal injections of saline solution in inhibiting the secretion of the gastric juice, the checking of which is the only rational line of treatment. It has failed only once in his experience, and in that case the necropsy revealed an abnormally contracted stomach. T. R. WHIPHAM.

The early diagnosis of measles (*Münch. med. Wochens.*, October 12, 1909).—**Hecker** has observed a great reduction in the number of leucocytes during the incubation period of measles. The change is found one to three, and sometimes even ten or eleven days, before the appearance of Koplik's spots. In addition to the decrease in the total number of leucocytes there is a relative diminution in the number of lymphocytes, which may almost disappear from the blood. These signs may prove important in children who have been exposed to infection. T. R. WHIPHAM.

Uræmia, sequel to scarlet fever (*Journ. of Amer. Med. Assoc.*, December 11, 1909).—**Child** saw a boy, aged 7 years, who passed through a typically severe infection of scarlet fever. The temperature fell on the sixteenth day, and there had been no albuminuria. Four days later twitching commenced and the patient became unconscious, the temperature gradually rising to over 104° F. Œdema appeared, and convulsions continued for twenty-eight hours. The heart was dilated and the urine was loaded with albumin and casts. Purges and diaphoretics were employed, and finally venesection when the child appeared to be *in extremis*. From the time of the bleeding the convulsions ceased and the patient gradually recovered consciousness. He eventually made a good recovery. T. R. WHIPHAM.

Arthritis due to injections of antidiphtheritic serum in a child (*Journ. de Med. de Bord.*, December 5, 1909).—**Augistron** remarks that slight local reactions have been frequently noted in man, but the present case is noteworthy from the intensity and persistence of the local phenomena. A boy aged 6 years was being treated for hæmophilia. On the 18th of June, after a severe epistaxis, 20 c.c. of Roux serum was injected under the skin of the abdomen; no reaction followed. On June 27th, after a fresh hæmorrhage, 10 c.c. of the serum was injected under the skin at the outer part of the left hip. Half an hour later the child complained of pain in the left leg, and there was much tenderness at the site of injection. Three hours later movements of the leg were painful; the puncture showed a small ecchymosis surrounded by a pallid area the size of a five-franc piece. The thigh was cedematous, and here and there were violet patches and areas of urticaria. The cedema extended next day upwards to the lumbar region and down below the knee. After this the phenomena slowly disappeared. The writer considers they were not due to sepsis, as they began half an hour after the injection, and there was no rise of temperature, but that they depended in some way on the serum reaction itself.

J. PORTER PARKINSON.

Severe hæmoptysis during convalescence from measles (*Journ. de Med. de Bord.*, November 14, 1909).—**Vergely**. A healthy child, aged 8 years, developed a measles rash on April 11th; this disappeared five days later. There was slight bronchial catarrh which lasted till April 21st, and the child's health seemed completely restored. She got up on the 23rd and remained well till on April 30th, after a short walk, she began to cough, and brought up a little blood; the cough continued, and finally she expectorated about a teacupful of blood, bright and frothy. Examination of the chest was negative. No more blood was brought up, and the child, after eight days' rest, was sent to the country. Hæmoptysis is rare in childhood, apart from tuberculosis or whooping-cough, but when it occurs it is generally due to one of the acute specific fevers, such as measles or scarlet fever.

J. PORTER PARKINSON.

Clinical notes on a few cases of hydatid disease of the lung (*New Zealand Med. Journ.*, November, 1909).—**H. M. Wilson**.—In this paper four cases of hydatid disease of the lung are described in children, together with two other cases in adults. Case 1: Girl, aged 9 years. Whooping-cough two years previously, and since then had had a paroxysmal cough. She coughed up several pieces of hydatid membrane. Well-marked dulness over the base of the right lung up to the angle of the scapula. A piece of rib was excised, a needle inserted into the abscess cavity, and the cyst incised through thickened pleura and lung and the endocyst removed. In sixteen days the wound had healed, and the child subsequently improved very much in health. Case 2: Girl, aged 13 years. Patient was admitted to hospital for chronic Bright's disease, with left pleural effusion. The urine was almost solid with albumin. The effusion was tapped, and afterwards became purulent, and was drained. One day she suddenly had a profuse hæmoptysis and choked. After clearing her throat of a large piece of hydatid membrane she was inverted, and doing artificial respiration, she came round and recovered. Case 3: Boy, aged 16 years. One year previously pneumonia in right lower lobe. When he came under observation he had been ill in

bed for two or three weeks, and had signs of right-sided pleural effusion. A needle inserted on two occasions drew off a clear, straw-coloured fluid. He then became better for a few days. Another exploration was performed and the patient suddenly became cyanosed, with rapid pulse and vomiting. The dulness was unaltered, but above and in front the lung was very resonant, and tubular breathing could be heard everywhere. Next day the whole side of the chest was dull, with tubular breathing, moist râles, and dry, sharp crepitations. There was then a profuse albuminous expectoration, and on the following day the dulness and crepitation had disappeared, with the exception of a little dulness at the base, with poor air-entry over this area. A piece of rib was excised and the cyst localised with an exploring needle. The two layers of pleura were stitched together, the opening into the cyst was enlarged, and the cyst fixed to the chest-wall. A tube was put in and the boy did well. Case 4: Girl, aged 12 years. The patient had a well-marked hydatid of the liver seven years before, which had been removed. She was admitted to hospital for a suppurating hydatid of the lung, and occasionally expectorated a small amount of pus, which contained hooklets. There was a fluctuating swelling between the ribs and the right axilla. This was incised, the endocyst removed, and a small quantity of pus evacuated. She slowly got well and the wound healed, but subsequently opened up again. Part of the endocyst presented in the wound, and the whole cyst was removed by means of forceps. This was followed by a very severe hæmoptysis, which led to an asphyxial condition, from which she recovered by artificial respiration. She is now well, but in the lower right costal region, near the sternum, there is a slight prominence which suggests the presence of another cyst. The author points out that there is an increase in hydatid disease in New Zealand, and that this increase must continue unless something drastic is done to stay it. If the meat given to dogs were cooked there ought certainly to be no reason for its survival.

JAMES E. H. SAWYER (Birmingham).

Typhobacillosis of Landouzy and late localisations of acute tubercular infection in children (*Le Progrès Méd.*, December 26, 1909, No. 52, p. 1121).—MM. Weill and Mouriquand believe with Landouzy in the frequency of typho-bacillosis which is seen in children's hospitals. They describe several types corresponding to late visceral localisations, meningeal, peritoneal, pleural, and pulmonary. In all the cases observed one fact stood out prominently: the great uncertainty of the diagnosis at the typho-bacillary period during which one is face to face with the possibility of a typhic infection. Clinically, some importance must be attributed to the absence of taches and of palate ulcerations. The size of the spleen is variable; the temperature chart gives valuable information: the fever is well borne; the temperature often oscillating and irregular; the appetite is often retained. Personal antecedents must be carefully investigated, and laboratory research is next in importance, *i. e.* the tubercular reaction, injection of artificial serum (Hutinel), the sero-reaction of Arloing and Courmont, the inoculation of 5 c.c. of blood into the peritoneal cavity of a guinea-pig (Gougerot), Jousset's inoscopy, search for Koch's bacillus in the blood by the leech method (Lesieur). Widal's serum diagnosis is negative. Typhobacillosis without localisation may end in recovery, but with localisation the gravity of the affection is greatly augmented, and there is unfortunately a great tendency to localisation.

VINCENT DICKINSON.

Pathology.

Morphology of blood in pertussis ('*Arch. of Internal Med.*' vol. 1, 1908, p. 602).—**J. H. Barach** examined fifty cases whose ages ranged from $1\frac{1}{2}$ to 72 years. He found that lymphocytosis is the characteristic feature in the early stage of pertussis, and reaches its highest grade in children most severely affected. As improvement sets in the polymorphonuclears increase and eosinophilia is present.

J. D. ROLLESTON.

Therapeutics.

Treatment of cholera infantum with carrot soup ('*Jahrb. f. Kinderheilk.*,' May, 1909).—**Beck** advocates the treatment of various gastrointestinal disorders in children with carrot soup, which seems to alter the flora of the intestines, and so arrest the symptoms. The soup is made by adding mashed carrots to beef-tea, and contains about 250 calories to the quart; it is given every three or four hours, and in between the child is allowed to drink as much as it likes. One advantage of the carrots is that they form an accumulation of waste products, which serves to keep the intestines active better than a pure water diet.

T. R. WHIPHAM.

Lumbar puncture in whooping-cough ('*Med. Press*,' November 10, 1909).—**Eckert** advocates lumbar puncture in pertussis. In post-mortems on children who have died after treatment with bromide and chloral the only lesion found in the body was œdema of the brain and meninges. Eckert consequently has treated several cases by lumbar puncture, followed immediately by a bath, with striking success. A speedy recovery occurs even in patients who are in an eclamptic state and have been admitted as dead. He contends that the bath after the operation is an important adjunct, as it stimulates the respiration, increases the venous flow, and at once removes the œdema, the immediate cause of the disease.

T. R. WHIPHAM.

Treatment of diphtheria with pyocyanase ('*The Therapist*,' October 15, 1909).—In the treatment of diphtheria **Koslowsky** advocates the local application of pyocyanase in conjunction with the injection of antitoxic serum. Pyocyanase is best used in a 15 per cent. solution in water as a spray for the throat or on tampons for the nose. The dissolving effect of the drug on the membrane is remarkable, and may render intubation and even tracheotomy superfluous. It soon causes disappearance of the factor and favourably influences the condition of the patient. It is probable that the combined treatment with pyocyanase and serum shortens the period of the disease and greatly reduces the mortality.

T. R. WHIPHAM.

The administration of gelatin by the mouth in melæna of new-born infants ('*Lyon m'éd.*,' Dec., 1909, Nov. 31, p. 1073).—This case is reported by **De Teyssier**, of Toulon. The patient, a girl, was born at term after a labour of twelve hours in a three-para, the short forceps being applied at the vulvar orifice. The infant appeared normal. On the seventh day the author was called in on account of melæna, which had been present from the first stool passed until then. The stools were copious, and occurred twice daily, staining the napkins like Indian ink. There was no

vomiting, fever, shivering, or any other hæmorrhage. The belly was lax, and the infant took the breast well, and commenced to gain weight. It was ascertained that the blood did not have its origin in the mouth or nose of the child, nor the mother's breasts. Having noticed in Prof. Weill's clinic the tolerance exhibited by infants with diarrhœa for gelatin, the author administered by mouth the first day, four tubes of 10 c.c. of 10 per cent. gelatinised serum, *i. e.* four grammes of gelatin. At the end of twenty-four hours the stools had become bronze-green. After the second day, during which the same dose was given, they were yellowish-green. The dose was reduced by half on the third day, and one tube only was given on the fourth, the stools being yellow, and they maintained this colour after the treatment was suspended. The author asks how the gelatin, changed by the gastric juice into gelatose which has no coagulating property, could have acted as an hæmostatic to the intestinal lesions. On this question Carnot suggests that the gelatose itself is retransformed into gelatin in the intestines.

VINCENT DICKINSON.

Treatment of thrush in newborn infants (*'La Clin. Infant.,'* Dec., 1909, No. 24, p. 757).—**M. Rudaux** describes the procedure he employs to combat this affection. (1) The lingual and buccal mucous membranes are rubbed morning and evening with a tampon of absorbent wool dipped in Van Swieten's solution and well squeezed. In severe cases the mucous membrane is cleansed with sterilised wool to remove the plaques, and then swabbed once daily with a mounted swab soaked in solution of nitrate of silver 2 per cent., and immediately neutralised with another swab soaked in solution of salt. (2) The mouth is frequently washed, especially before a feed, with a 10 per cent. solution of borax, or with lime water, or with a solution of equal parts of bicarbonate and baborate of soda, 10 per cent., in a mixture of glycerine and water equal parts. (3) The nipple or teat is cleansed before each feed with 10 per cent. solution of borax, and after the feed with Van Swieten's solution. (4) When there is vomiting lavage of the stomach is done daily with solution of bicarbonate of soda 8 per cent.

VINCENT DICKINSON.

Treatment of incontinence of urine (*'La Clin. Infant.,'* January 15, 1910, No. 2, p. 63).—**M. Jeanbrau** brought before the Soc. des Sciences Méd. three cases of nocturnal incontinence of urine cured by acidification of the urine. He had noticed that in these cases the urine was either neutral or alkaline; he prescribed phosphoric acid and the incontinence immediately disappeared. The author is of opinion that adenoids and adherent prepuce play subsidiary parts. He administers the phosphoric acid as Bardet's lemonade. Acid. phosphoric, official, 28 gr.; tincture of orange, 20 gr.; syrup, 250 gr.; distilled water to 1 litre. One to two glasses daily for an adult, one to two small glasses for a child.

VINCENT DICKINSON.

On the use of morphine in acute spasmodic affections of the larynx in infants (*'L'Echo Med. du Nord,'* Nov. 7, 1909).—**Delécude** and **Swynghedauw**. In diphtheria codeine was used by Vaciôt to lessen stridor; others have employed belladonna for the same reason. Lesage and Cléut employed morphine, and considered that danger of asphyxia was much lessened thereby, stridor ceasing and the breathing becoming calm and regular. If cyanosis was present intubation was performed and morphine given; in these cases the tube could be safely removed after

twelve hours. The dose of morphine in children from eighteen months to seven years has never exceeded 0.003 gramme. Many other observers have testified to the value of the drug in similar cases. The authors quote fifteen cases, in most of which morphine was used with great success, either removing the necessity for intubation or lessening the time this intubation was used. They never use morphine when there is any pulmonary affection, however mild this may seem. They never use more than 0.003 gramme at a dose. They employ in addition other antispasmodics, such as hot baths, warm compresses to the neck, etc. And in diphtheria they also use massive doses of antidiphtheritic serum.

J. PORTER PARKINSON.

On the loss of vaccinal immunity in children under 7 years (*Journ. de Méd. et de Chir. Prat.*, 1909, p. 542).—**Serrière** successfully re-vaccinated ninety-one children below the age of seven years, and therefore thinks that during an epidemic of smallpox a general re-vaccination of all school-children is indicated.

J. D. ROLLESTON.

Bacterial vaccines in children's diseases (*Arch. of Pediat.*, vol. xxvi, 1909, p. 674).—**B. R. Hoobler** records cases of chronic bronchitis, broncho-pneumonia with delayed resolution, general rheumatic infection, septicæmia, empyema, and furunculosis, in which recovery followed the use of bacterial vaccines.

J. D. ROLLESTON.

Otology, Laryngology, and Rhinology.

Deafness following epidemic cerebro-spinal meningitis (*Franz Deutike*, 1908).—**Alt**, basing his communication on fifty cases of cerebro-spinal meningitis, makes some very interesting remarks relative to aural complications. The description of three autopsies is the object of a special study, accompanied by plates representing sections of the labyrinth. Nine patients could not be utilised for this study. Of the forty-one remaining, twelve were attacked by deafness. Of the twenty-four who recovered, nine were deaf; fifteen retained their normal hearing without disturbances of equilibrium. The twelve deaf presented the same result on examination—normal tympanic membrane with complete deafness for speech, noise, and tones. Tuning-forks not perceived by air, suppression of bone-conduction, tactile bony sensation of large forks. The condition of the tympanum and tympanic membrane is always in relation with the extent of the lesions which are spread from the internal ear, and if Alt only found intact membranes, that is accounted for by the early period at which these examinations were conducted. He has, moreover, demonstrated an invasion by lesions at the level of the round and oval windows. It is important, nevertheless, not to mistake the otitis of nasal origin which may appear at the same time as the meningitis. The deafness is usually an early symptom in the first or second week. It most often comes on abruptly. It was bilateral in all Alt's cases; but in some cases the return of the hearing was not the same on both sides. Labyrinthine suppurations consecutive to cerebro-spinal meningitis do not always lead to incurable deafness, since 30 per cent. show a return of feeble hearing. It is necessary from the point of view of prognosis in these forms of deafness to eliminate those which came on after hydrocephalus, or anatomical changes in the ependyma of the fourth ventricle.

Anatomical inquiries have shown that abundant purulent infiltration in the region of the auditory nerve little affects the facial. Most of the subjects, deaf consecutively to cerebro-spinal meningitis and recovered, show serious vestibular symptoms, characterised by an intense vertigo, by incapacity at first to keep straight when walking, by the tendency to fall to one side, later by insecure gait. These symptoms are the result of the destruction of the vestibular apparatus following purulent inflammation of the semicircular canals and vestibule, then by invasion by connective tissue and bony tissue of new formation. The loss of this sense, shown at first by very painful symptoms, ends by compensation by the action of other senses, as vision. The duration of these vestibular symptoms varies according to the age of the patients; older subjects recover very quickly. Treatment has no effect on the pathogenic process. Iodine has an action on the resorption of the exudate. As regards acute median otitis, in the majority of the cases it is an accidental complication of the general morbid process, although it cannot be excluded as an intermediary in the production of epidemic meningitis.

MACLEOD YEARSLEY.

Surgery.

Mastoiditis due to the micro-organisms of Vincent's angina (*Journ. Amer. Med. Assoc.*, July 16, 1909).—Yates saw a girl, aged 12 years, who for several months had suffered from a neglected otorrhœa. Signs of a mastoid abscess were present and operation was performed. The larger part of the mastoid cortex was found to have disappeared, and the centre of the bone was occupied by a dark red, spongy mass, in which were small, dark sequestra, "like plums in a pudding." The dura mater and lateral sinus were exposed, the latter being covered by a stringy, yellowish membrane. The diseased tissue having been removed, it was decided not to perform a radical operation as the middle ear had not been inspected. A bacteriological examination showed that the infection was a mixed one due to the micro-organisms of Vincent's angina, the *Spirochaeta denticola*, and *B. fusiformis*. After the operation the otorrhœa persisted, the pus still showing the bacteria. After an attack of measles a discharging sinus appeared behind the ear. A radical operation was considered to be too risky, and the ear was treated with North's lactic acid serum (a pure culture of lactic acid bacilli in bouillon), which was simply poured in until it appeared in the sinus behind the auricle. The sinus closed and the otorrhœa ceased in ten days, the patient being left with good hearing, though the drum and ossicles were, of course, destroyed. Such infections of the ear are probably not primary, but follow on an affection of the throat.

T. R. WHIPHAM.

Decapsulation of both kidneys for acute nephritis following scarlet fever (*Journ. Amer. Med. Assoc.*, July 10, 1909).—Harding saw a boy, aged 12 years, who had an ordinary attack of scarlet fever without albuminuria. On the twentieth day severe vomiting set in, followed by a convulsion and the passing of a small amount of bloody urine heavily loaded with albumin. Hot packs, poultices over the kidneys, and pilocarpine and digitalin hypodermically brought about no improvement, and five days later there was complete loss of vision and hearing, the patient lapsing into

unconsciousness with suppression of urine. Operation was performed, both kidneys being decapsulated. The organs were very large, tense, and congested, and bled profusely when the capsules were removed. After the operation the flow of urine was at once re-established, and on the third day sight and hearing began to return. The boy left hospital on the eighteenth day with a good recovery.

T. R. WHIPHAM.

Inguinal hernia in the new-born (*'La Path. Enfant,'* November 15, 1908).—**Broca** finds that children who are the subject of retarded physical development present predisposing conditions to herniæ. Chief among the causes are rickets, malformation of the peritoneum, and prematurity; also heredity, especially on the father's side. In many cases the hernia is present at birth and it frequently contains the large intestine, a peculiarity which is common to infancy and old age. In many cases the hernia appears later, being produced by the mechanical effort of coughing, crying, etc. In a large number of cases the cure is spontaneous or is brought about by the use of an ordinary supporting bandage. In ill-nourished and rickety children, however, there is but little tendency to spontaneous cure, and the condition may even become aggravated, the restlessness and crying increasing the hernia, which is in itself a cause of colic and discomfort. The involved intestine often becomes the site of impacted fæces, and strangulation under one year of age is not uncommon. During the second year Broca advocates the performance of a radical operation, which gives very good results.

T. R. WHIPHAM.

Treatment of hydrocephalus by puncture of the corpus callosum (*'Dent. med. Wochens.,'* September 23, 1909).—**Bramann** advises that the corpus callosum be punctured to relieve the pressure on the brain in cases of hydrocephalus. By this means the fluid can escape from the ventricles into the subdural space of the brain and spinal cord, and the active flow of fluid will prevent the opening closing up. In children trephining is unnecessary. A small incision is made through the anterior fontanelle into the dura 1 cm. to the right of the median line so as to avoid the sinus. A curved cannula is then pushed in between the wall of the sinus and the surface of the brain towards the median line until its tip meets the falx and glides down it to the corpus callosum, through which it is pushed. After allowing the fluid to escape the cannula is moved to and fro so as to ensure a sufficiently large opening. The cannula is then withdrawn. The results have been good in several cases, including infants, who have not benefited by puncture of the ventricles and lumbar puncture.

T. R. WHIPHAM.

Tumours of the breast in childhood (*'Annals of Surgery,'* vol. XLVIII, 1908).—**Jopson** states that tumours of the breast, though rare in childhood, may occur in both sexes and at all ages. Benign tumours are more frequent than malignant, fibro-adenomata being most common and angiomata next in frequency. Sarcoma is rare, and carcinoma is almost unknown before puberty. Girls are affected more frequently than boys, but the disparity in numbers is much less than in adults. Angiomata are often congenital and first appear in infancy, while fibro-adenomata tend to develop more often as the child approaches puberty. Some of the smaller benign tumours cause no symptoms; others are associated with pain or tenderness. The results of operation are generally good.

T. R. WHIPHAM.

Early diagnosis of congenital dislocation of the hip-joint in young children (*'Presse Méd.,'* September 29, 1909).—**Gourdon** objects to the term "congenital dislocation," believing, as he does, that there is no dislocation until the child begins to use its limb. He maintains that the child is born with peculiarities which entail dislocation later, and gives a simple test by means of which these peculiarities can be diagnosed. The child is placed on the sound side and the affected thigh is flexed on the pelvis with the leg flexed on the thigh, the knee being kept in contact with the table. With the knee in this position the sound thigh in a normal child can be twisted inwards only a certain distance—not more than 60° from the plane of the table. Should the head of the femur be abnormally movable the sound thigh can be rotated to 90° or even more. The test also reveals disturbances in the joint resulting from other affections before there is any displacement of the femur.
T. R. WHIPHAM.

Simple dressing for treatment of tuberculous disease of shoulder-joint (*'Amer. Journ. of Orthop. Surg.,'* August, 1909).—**Gillette** advocates placing a roll of cotton-wool in the axilla of sufficient size to make outward pressure on the upper end of the humerus and fixing it there by means of a Spica bandage. The pad acts as a fulcrum, the intra-articular pressure being relieved by the weight of the arm. The advantage of this method is that the arm can be used, except possibly in acute stages, and is comfortable for the patient, while the intra-articular pressure is relieved. Absolute rest of course is not attained.
T. R. WHIPHAM.

Cure of prolapse of the rectum by tamponing the retro-rectal space (*'Zentralbl. f. Chir.,'* September 4, 1909).—**Sick** advocates tamponing in the treatment of prolapse of the rectum. An incision is made between the tip of the coccyx and the sphincter into the loose connective tissue behind the rectum. There are no important structures to be injured at this point. The rectum is then detached up to the promontory of the sacrum, tamponed with a little gauze, and some folded gauze is introduced. The incision is closed with plaster or collodion. The tampon is removed in one or two weeks, but not until after the second or third week should the patient be allowed to defæcate in a sitting posture. This technique is especially applicable to children.
T. R. WHIPHAM.

Perforating ulcer of sigmoid following measles (*'Journ. Amer. Med. Assoc.,'* vol. LIV, 1910, p. 47).—**J. C. Murphy**. A boy, aged 14, had a severe attack of measles with gastro-intestinal complications, dysentery persisting after the usual symptoms had disappeared. The cessation of dysentery was followed by pain, enlargement of the abdomen, nausea, fever, and constipation. When seen by Murphy the abdomen was enormously distended, and completely dull below the umbilicus. A median incision was made, and much pus and fæcal matter evacuated. A ragged hole was found in the sigmoid, admitting two fingers. The bowel was not sutured, but the cavity was wiped clean and drainage established. The subsequent history was uneventful. Eight months after the operation the patient was in good health, and had no symptoms of cicatricial stricture of the bowel.
J. D. ROLLESTON.

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

VOL. VII.

JUNE, 1910.

No. 78.

Original Articles.

FOUR CASES OF ACUTE NON-SUPPURATIVE
ENCEPHALITIS IN CHILDREN.*

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ACUTE non-suppurative encephalitis in children is frequently associated with inflammation of the pia mater, and occurs by simple extension of the inflammation from the meninges to the cerebral cortex, but during recent years an acute hæmorrhagic form has been described which develops independently of any inflammation of the membranes of the brain, and in a large proportion of cases terminates in recovery with or without the persistence of focal symptoms. The study of this disease is full of difficult problems, and, owing to the similarity of the symptoms in its early stages to those of meningitis, it not infrequently escapes recognition. The difficulties which arise are due to the fact that the symptoms vary not only according to the seat of the disease, but also according to the age of the child, and, further, owing to its tendency to recovery, it is often difficult to establish a diagnosis either from existing focal symptoms or retrospectively from autopsy changes. The disease is usually focal in character, though the foci are multiple and disseminated, and any portion of the brain may be affected; but the cortex or encephalitis superior, the basal ganglia and region of the

* Read before the Liverpool Medical and Literary Society, April the 8th, 1910.

medulla or encephalitis inferior, and the cerebellum are the usually selected areas.

An interstitial congenital encephalitis has been described by Virchow and is characterised by the presence of fatty granule cells which are found diffusely scattered or in disseminated nests in the brain of new-born infants. They are seen as small, yellowish foci and on examination are found to contain, in addition to the fatty granules, round-cell infiltration with other changes in the ganglion cells and the neuroglial tissue establishing beyond doubt the fact that they represent an inflammatory process. There is also an acute encephalitis of infants which begins with violent cerebral symptoms not unlike those of meningococcic meningitis and ends as a rule fatally, the autopsy revealing an extensive inflammation of the brain. The disease is apparently primary and is probably the result of some septic process. Microscopical examination reveals necrosis, atrophy of the white matter, disappearance of the ganglion cells, and marked proliferation of neuroglial tissue. It is particularly prone to attack premature and atrophic infants and the seat of inflammation is in most cases in the hemispheres of the cerebrum, occasionally in the basal ganglia, and rarely in the pons. In older children acute inflammation of the brain may run a course similar to that seen in infancy, but more frequently the symptoms are not so violent, the inflammation tends to be circumscribed, and a fair proportion of cases terminate in recovery. The most frequent causes are the infectious diseases, especially measles, mumps, and influenza, but it may also follow injury to the head and in two of my cases this appears to be a causative factor. An additional form of encephalitis which is primary has been described by Strümpell under the name of "acute polioencephalitis." This type he believes to be caused by the same toxic agency as anterior poliomyelitis, and it is interesting to note that during the recent epidemics of poliomyelitis in America and on the Continent many cases have been recorded of acute inflammation of the brain and of the spinal cord in association.

Many cases of cerebral infantile palsy, which commence with acute febrile brain symptoms, are in all probability also due to encephalitis, and if this is so we must conclude that the disease is much more frequent than was formerly believed to be the case. For the pathology we have to depend upon post-mortem findings in infants, and upon a certain number of cases which have recovered and come to autopsy from other causes later, and in which patches of sclerosis or other inflammatory changes have been found in the affected region, confirming a previous diagnosis of encephalitis.

CASE 1.—My first case, Kendal S—, aged 4 years, had always been a bright, intelligent, and healthy boy, his only previous illness being whooping-cough, which he had in infancy. There was nothing to note in the family history, his parents and three other children being all alive and healthy. Three months before admission he was taken ill with mumps, and about a week after the attack commenced he suddenly became stubborn and irritable, developed a staring and vacant look, and on getting him out of bed it was noticed that he walked with a staggering gait; there was no headache, vomiting, or convulsion. On admission, on March the 26th, 1907, he was well-nourished and healthy-looking, but he was unable to walk without support. His gait was distinctly ataxic, and there was marked inco-ordination of the arms and legs; the muscles were soft and flaccid, but not wasted, the electrical reactions were normal, and the knee-jerks were absent. The pupils were dilated, but reacted to light and accommodation; there was no ocular paralysis, and there was no optic neuritis. The cerebro-spinal fluid obtained by lumbar puncture was normal. The boy remained in hospital until June the 7th, by which time he had made considerable progress towards recovery, but he still walked with a slightly staggering and uncertain gait. After his discharge he continued slowly to improve, and at the present time, I am informed by his doctor, he is perfectly well both mentally and physically.

The similarity of the symptoms in this case to those in a series recorded by F. E. Batten,* under the title of "Acute Ataxia in Children," led me to consider it to be of the same type, the most probable cause being a cerebellar encephalitis. This disease, Batten says, "occurs in healthy and intellectual children who are taken ill with some infectious disease; a period of unconsciousness may occur during the illness, but general convulsions are seldom present. The child is apparently making a normal convalescence, when, on getting up, it is discovered that he has inco-ordination of the hands and feet, and that he is ataxic. Recovery gradually takes place in favourable cases; the child may be quite well in two or three months, but more usually it is one to two years before recovery is complete." In my case the absence of headache, vomiting, and optic neuritis—symptoms always present in cerebellar tumour—excluded that disease, and the normal electrical reactions negatived the possibility of a peripheral neuritis, whereas the inco-ordination, the ataxia, the hypotonicity of the muscles, and the absence of knee-jerks make it difficult to locate the lesion elsewhere than in the

* 'Brain,' vol. xxviii, p. 488.

cerebellum. Moreover, the close association of the cerebral symptoms with mumps is strong presumptive evidence of their being caused by one and the same toxic agency.

CASE 2.—Monica B—, aged 4 years, was admitted into the Infirmary for Children on October the 19th, 1909. Her father, mother, and nine other children were healthy. There were six children dead; one from convulsions, aged $1\frac{1}{2}$ years; one from scarlet fever, aged 5 years; one from croup, aged 2 years; one from "consumption of the bowels," aged 5 months, and two were still-born. She had measles when a year old, but otherwise had enjoyed good health until four weeks before admission, when she injured her head by falling out of bed. A week later she was taken ill with a feverish attack and cough. There was no headache or vomiting, but she became irritable and restless, and after a few days in bed it was discovered that she could not walk or stand, and that she had tremors of the arms and legs. On admission she was extremely irritable, especially under examination, and lay in the crouched-up attitude; there was no facial or ocular paralysis, but when the eyes were fixed, coarse nystagmic movements were seen. There were marked tremors of the arms and hands, which were increased by muscular effort, and similar tremors, but more intense, affected both lower extremities. The gait was staggering, with a tendency to fall forwards, very similar to that seen in paralysis agitans, and she was unable to stand or walk without assistance. The knee-jerks and the superficial reflexes were present, but weak; the plantar response was flexor. Kernig's sign was absent, and there was general hypotonicity of the muscles; there was no optic neuritis. This child also gradually improved, and on December the 30th, when she was discharged, there were no tremors in any of the limbs and there was no nystagmus; she was able to walk quite steadily and appeared to be bright, good-tempered, and intelligent.

In this case it is somewhat difficult to determine whether the injury to the head was the causative agent, or whether the feverish attack which set in a week later was of an influenzal character. The family history also suggests the possibility of a specific origin, but beyond the history there were no signs of inherited syphilis in the child, either in the eye-grounds or elsewhere. Gordon Holmes* has recorded nine cases with tremors of a similar type, which were associated with destructive lesions in the cerebello-rubro-spinal system, and more recently R. Millert† has published six cases, all

* 'Brain,' 1904, p. 327.

† *Ibid.*, 1909, p. 54.

occurring in children, in all of which similar tremors were present, which he believed to be due to polio-encephalitis affecting the same tract in the mesencephalon. It is, therefore, not unreasonable to suppose that the tremors in my case were caused by some irritation of an inflammatory nature affecting this tract, and further, the ataxia, the nystagmus, and the muscular flaccidity would suggest that a portion of the lesion was either in the dentate nucleus or in the superior cerebellar peduncle, through which the fibres of the cerebello-rubral tract are conducted to the red nucleus of the opposite side.

CASE 3.—Fred W—, aged 6 years, was admitted into the Children's Infirmary on June the 18th, 1909, and had been exceptionally bright and healthy until six weeks before admission, when he was taken ill with measles. For about three days the attack ran an ordinary course; vomiting then set in, which lasted two days, and he completely lost the power in his arms and legs. He could not speak or open his eyes, and for a week lay in an unconscious condition. At the end of that time he regained consciousness, opened his eyes, and seemed to recognise his parents, but he was still unable to speak or move any of his limbs. On admission he was fairly nourished, but lay absolutely helpless in bed, and was unable to sit up without support, or even lift his head from the pillow. He was unable to speak, but seemed to understand what was said to him, and he frequently laughed in an aimless manner. The pulse was slow and irregular, the pupils were equal and reacted to light and accommodation, there was no optic neuritis or nystagmus, but there was well-marked left internal strabismus. Inco-ordination of the upper and lower limbs was very pronounced, the muscles were flaccid, but not wasted, and the knee-jerks were absent. There was apparently anæsthesia to pin-pricks of both lower limbs up to Poupart's ligament, of both arms, and of the neck. The gait was markedly ataxic, with a tendency to fall backwards, and there was incontinence of urine and fæces. He remained in hospital until December the 28th, and on his discharge he was able to walk with support and to speak a few words, such as "Good morning." The internal strabismus remained and his mental condition was considerably impaired. Since his return home he has improved considerably in this respect; he is now obedient and even-tempered, he can remember well events that happened before his illness, and he has complete control over the urinary and rectal sphincters. He can stand by himself, but is still unable to walk without support. The knee-jerks are absent, and the muscles are soft and flaccid, but

not more wasted than would be expected from disease ; they react normally to electricity, and there is still slight inco-ordination of the hands and feet.

The flaccidity of the muscles and the pronounced ataxia seem to suggest in this case also an involvement of the cerebellum ; the paralysis of the left sixth nerve point to a lesion in the pons, whereas the mental disturbance is indicative of an affection of the pre-frontal region of the cerebrum. I would therefore suggest that this is a case of widely diffused encephalitis involving the cerebellum, the mesencephalon, and the frontal area.

CASE 4.—Gertie B—, aged 8 years, was admitted on August the 16th, 1907, when we obtained the following history from her parents: When five years old she fell off a chair, striking the back of her head ; she was unconscious for two days, during which time she vomited repeatedly. She was then taken to the Liscard Hospital, where she remained for fourteen weeks, and was said to be suffering from concussion of the brain. On her return home tremulous movements of the right arm and leg were noticed, especially marked during muscular exertion ; she had no headache or vomiting, but during the past three years she has had several fainting attacks, in which she lost consciousness, but there were no convulsive movements. On admission she presented marked intention tremor, especially affecting the right arm and leg, but also present, but to a less degree, on the left side and in the head. Her grip was fairly strong and equal, the knee-jerks were sometimes present, at other times absent, there was no ankle clonus, the electrical reactions were normal, there was no rigidity of the limbs, and the cerebro-spinal fluid was normal. There was no paralysis of the eye muscles, no optic neuritis, but there was well-marked lateral nystagmus, and her speech was of the “scauning” character so typical of insular sclerosis. She walked quite steadily, and Romberg’s sign was not present. This patient has been under observation up to the present time, and when last seen a few weeks ago there was little or no change to be noted ; the symptoms have not increased nor have they to any appreciable extent improved.

We have here a child in whom the three symptoms formulated by Charcot as characteristic of multiple sclerosis are all present, and as a large number of cases of this disease occurring in children have been recorded, it is only natural that such a diagnosis should be the first to be suggested by the majority of those who have seen this patient. Müller,* in a recent monograph on multiple cerebral

* Pfaundler and Schlossman, vol. iv, p. 236.

and spinal sclerosis, has clearly defined the anatomical changes found in this disease; he asserts that they consist in the presence of numerous dense yellowish-white foci in the spinal cord, medulla oblongata, and cerebrum, which on microscopical examination show excessive proliferation of the neuroglia. The nervous tissue itself shows very little change, the axis cylinders of the nerve-fibres within the diseased areas are for the most part preserved, and the ganglion cells are not destroyed; secondary degeneration of the nerve-tracts is usually absent. Schupfer, in a contribution on infantile insular sclerosis, states that many of the cases which have been described as such, and in which intention tremor, scanning speech, and nystagmus were all present, have on pathological examination proved to be cases of pseudo-sclerosis, hereditary syphilis, or cerebral infantile palsy, and in none of the cases was the positive sign of exclusive disease of the neuroglial tissue found. Under these circumstances, if we accept these views, we are not justified in making a diagnosis of multiple sclerosis in the child based on clinical symptoms alone, and in the case which I have related when we consider the sudden onset of the illness and the arrest of symptoms, or rather their failure to steadily progress, it would seem more rational to ascribe them to a disseminated myelo-encephalitis in which multiple inflammatory foci have run a chronic course, resulting in patches of sclerosis which have eventually developed a clinical picture indistinguishable from that of insular sclerosis.

These four cases I venture to think aptly illustrate the variety of symptoms which acute encephalitis in childhood may present. In all of them the exact nature of the lesion lacks pathological proof; but from their sudden onset and the close similarity of the symptoms to cases in which the diagnosis has been confirmed by post-mortem examination, it does not seem unreasonable to ascribe them to an inflammatory process affecting the central nervous system. As to the cause, the influenza bacillus and the meningococcus have repeatedly been found in encephalitic foci; but in many other cases that occur the infective agent would appear to belong to that class of the minute viruses which up to the present time have escaped microscopical and cultural demonstration.

In conclusion, I would emphasise that in any disease beginning acutely with fever, cerebral irritation, and rapidly developing focal symptoms, the possibility of acute encephalitis should be borne in mind, and if after the acute stage has passed off the symptoms of cerebral palsy persist, the diagnosis is practically confirmed.

POLIOENCEPHALITIS OF THE CEREBELLO - RUBRO - SPINAL SYSTEM—A CAUSE OF "ACUTE TREMOR" IN CHILDREN.

By LEONARD PARSONS, M.D., M.R.C.P.,

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THE fact that the acute infective process which attacks the cells of the anterior horn of the spinal cord, and which has therefore been called acute anterior poliomyelitis, is not limited in its action to those cells, is now generally recognised, and the condition is more correctly spoken of as acute poliomyelitis. It is not, however, so generally recognised that this morbid agent can affect higher levels in the nervous system, resulting in a polioencephalitis. The two conditions may occur together: polioencephalomyelitis, a cumbersome but expressive term. Flexner and Lewis have proved experimentally that these two conditions are manifestations of the same disease. Using the cord of a child who died from acute poliomyelitis, they were able to reproduce in a monkey identical lesions, not only in the cord, but also in the medulla. They have also found in monkeys in which they reproduced the disease changes in the intervertebral ganglia similar to those present in the spinal cord and brain in every case in which they have been looked for. Indeed, our conception of this disease must be that it is very general throughout the nervous system, attacking especially the grey matter and producing widespread results, some of which are temporary and completely clear up, others—the residual palsies—where actual destruction has taken place being permanent.

Polioencephalitis presents a symptomatology which varies greatly with the part of the brain chiefly affected. Thus, if it affects the cerebral cortex, convulsions, infantile hemiplegia, mental deficiency, and epilepsy may result. If the mid-brain, nuclear palsies of the nerves which arise in that region, III, IV, also lesions of the red nucleus and its connections, producing the characteristic symptoms to be described later. If the pons, nuclear palsies of V, VII, etc. If the cerebellum, frequently there develops a wild ataxia, the "acute ataxia" of Leyden, accompanied by hypotonus of the muscles, and possibly nystagmus. In this paper I wish to refer to polioencephalitis affecting the cerebello-rubro-spinal system. The condition was first described by Miller in a recent number of 'Brain,'

under the title, "On Certain Cases of Acute Tremor occurring in Children." I wish to place on record three additional cases, and refer also to a fourth case which came under my notice and which is included by Miller in his series.

The cerebello-rubro-spinal system is motor in function, and consists of two parts—the cerebello-rubral and rubro-spinal. The former links the dentate nucleus of the cerebellum with the red nucleus of the opposite side *viâ* the superior cerebellar peduncle, and in the latter the red nucleus is connected by the tractus rubro-spinalis, or Monakow's bundle, with the opposite side of the spinal cord. There are therefore two decussations in this system, and they both occur in close proximity to the red nucleus. In its course through the pons Monakow's bundle passes close to the seventh nerve nucleus, whilst in the cord it is closely related to the pyramidal tract. The red nucleus itself is developmentally a portion of the thalamencephalon, and its anterior end projects within the usual anatomical limits of the thalamus; posteriorly it extends so far into the mid-brain that the roots of the oculomotor nerves either pass through it or are in close proximity.

Gordon Holmes has shown that a destructive lesion of this system produces a slow, coarse, regular tremor of a rate 3–5 per second. It is involuntary, can only be checked for the shortest space of time, and volitional movement of the affected limbs is complicated by an irregularity of the intention tremor type like that met with in disseminated sclerosis. He has also pointed out that combined with this tremor is a certain degree of paresis and rigidity; in fact, that there is a close resemblance to the classical symptomatology of paralysis agitans.

From what has been said of the distribution of this system it follows that if the tremor is due to destruction of any part of it, the movement will be on the same side as the lesion, unless the red nucleus or its immediate neighbourhood be affected, when the tremor will be contralateral.

In the series of cases about to be described and in Miller's series the symptoms present agreed with those pointed out by Holmes. To use Miller's words: "The tremor which, with its acute onset, is characteristic of these cases corresponds exactly with that described by Gordon Holmes. It is a slow, regular tremor, in rate about five per second, which at its worst is continuous except during sleep, although increased by voluntary movement or during periods of excitement. It may be universal in the head, tongue, and muscles of the trunk, abdomen, and limbs, and it is sometimes more definite

in the proximal than in the peripheral parts of the extremities. In some of these cases the appearance of the child is very like that of one shivering all over from cold. Combined with the tremor is hypertonus, giving to the limbs some degree of uselessness, and rendering their movement slow, stiff, and awkward, and this in the absence of true spasticity. The important symptoms are three—the acute onset, the tremor, and the hypertonus. The two latter serve to separate the condition from cerebellar encephalitis in which there is hypotonus and ataxia, possibly also nystagmus and scanning speech.” Other signs and symptoms that may be present in these cases are those due to the disease attacking other parts of the brain and cord, and also from involvement of parts of the brain in the immediate vicinity of the cerebello-rubro-spinal system, *e. g.* oculo-motor, VII nuclei, etc.

CASE 1.—F. A—, a girl, aged 2 years and 3 months, was at play, apparently quite well, on the evening of July the 15th, 1909. When put to bed it was noticed that she was feverish. At 10 p.m. she had a “fit,” in which she became stiff and unconscious, but there was no twitching; this lasted about fifteen minutes, and soon afterwards she fell asleep. Immediately after waking up at 10 a.m. the next morning she had another “fit,” after which she slept till 12 noon, when yet another “fit” occurred. On recovering consciousness she said “Oh,” and it was noticed that she was trembling all over, the tremor affecting the tongue, arms, legs, and trunk, and was exactly like shivering. It was markedly less (if present at all) during sleep. For nearly three weeks she remained in bed, during which time the tremor persisted, she was apparently conscious, took her milk, but her eyes were fixed and staring, and she did not appear to see anything, nor did she speak. At the end of the first week after the onset of this illness pneumonia developed. She was admitted to the Hospital for Sick Children on August the 2nd, under Dr. Garrod, to whom I am indebted for permission to publish her case.

The family history showed nothing of note. She had been a quick and intelligent child up to the onset of the illness, and was able to talk quite well. On admission there was slight retraction of the head, her expression was staring, and she was apparently quite blind. There was present a slow rhythmic tremor of the arms, its character being that described previously, associated with which was well-marked rigidity of the limbs, but with no evidence of paresis. The knee-jerks and abdominal reflexes were present, and the plantar responses were of the flexor type. Both pupils reacted to light, *i. e.*

the reflex arc was intact, and the fundi showed no changes. There was also well-marked broncho-pneumonia.

On August the 13th the temperature fell to normal, and the chest signs soon cleared up. The tremor had been present continuously except during sleep, and on this day the tongue was seen to be affected. The cerebro-spinal fluid was examined on the 19th, and no lymphocytosis or organisms were found. Von Pirquet's reaction was negative. About the 24th the child spoke for the first time since July the 16th, and it was noticed that her sight had returned. On the 26th she was able to sit up, but on doing so the characteristic tremor appeared not only in the arms, but also in the trunk and legs, *i. e.* voluntary movement had caused its return in those parts. On September the 4th the tremor was absent when the limbs were at rest, and only brought out by voluntary movement. She made her first attempt to walk on this day. From then until she left the hospital on September the 12th the tremor improved, returning less and less on volitional movement. It was noticeable for the longest period in her arms, and at the time of her discharge had not entirely disappeared when voluntary movements were undertaken. There was also considerable stiffness of the limbs remaining. At no time was there any nystagmus or change in either ocular fundus.

She was last seen on February the 8th, 1910, when she appeared quite well and talked freely. Her mental condition was fair, possibly not quite so good as before her illness. She was still rather slow and stiff in her movements, and after a considerable amount of voluntary movement or excitement a slight tremor appeared in the left arm, affecting chiefly its upper part.

The lesion here probably not only affected the red nucleus or its connections, producing the tremor, but also the cerebral cortex, more particularly the occipital cortex of both sides, since transient blindness, convulsions, loss of speech, and possibly some loss of mental power, were present.

CASE 2.—F. H—, a boy, aged 4 years, complained of feeling tired at mid-day on September the 30th, 1909. He slept all afternoon, and on waking it was noticed that he could not hold his teacup because his hands were shaking; he was able to walk. The character of the tremor, as illustrated by his mother, was precisely that of paralysis agitans. He was very restless through the ensuing night; in the morning the trembling in the arms persisted, and there was also slight trembling in both legs. During this day he was drowsy, sleeping in snatches, and refused all solid food, but took

liquids. The tremor was noticed to stop when he was asleep, and to be much increased by voluntary movement. Trembling of the legs increased until in the afternoon he could walk, but only with difficulty. He was seen by Dr. Lund, of South Kensington, on this day, who tested the character of the tremor by asking the boy to take a glass of water off the table. His hand was noticed to shake more and more as it approached the glass, *i. e.* the tremor was of the intention type. His temperature was 102° F. The following day, October the 2nd, he remained in bed, sleeping a great part of the time, every now and again stretching out his arms, and lateral nystagmus was noticed. On October the 3rd he was much better, his mind was clearer, the nystagmus and trembling had stopped, he could move his arms and legs quite well, but could not sit up, and internal squint of the left eye was noticed. From this time until October the 5th, when he was admitted to the West London Hospital, he was unable to sit up, and seemed to lose power in his back, and on that day he was unable to hold up his head, which fell forwards; the squint was more noticeable, and he complained of pain in both shoulders. He was able to speak all through his illness, and did not "lose his voice," *i. e.* the intercostals were unparalysed. There was nothing of any moment in the past or family history. While an in-patient at the West London no tremor or nystagmus was observed; there was weakness of the right arm and leg, with complete R.D. in tibialis anticus and peronei.

After his discharge from the West London Hospital he was noticed to be slower and stiffer in his movements than formerly; his mental condition was not so active, and his memory not so good as before the onset of the illness.

When I first saw the boy on November the 15th, 1909, he was robust, well nourished, with no apparent mental impairment, and no trace of the tremor. There was no facial palsy or squint. The right arm was slightly weaker and thinner than the left, but recovery had apparently been almost complete. The right leg was weaker and colder than the left; the foot was in position of talipes equino-varus, with weakness of extensors and peronei. He walked moderately well. The abdominal reflexes were present; the left knee-jerk and the plantars were flexor. The right knee-jerk was absent. When last seen (January, 1910) it was impossible to discover any weakness of the right arm, and his walking showed a distinct improvement.

In this case there was doubtless a widespread lesion involving not only the cerebello-rubro-spinal system in probably both of its

divisions—the cerebello-rubral because of the nystagmus, and the rubro-spinal, in the pons, from the fact that there was paralysis of the left sixth cranial nerve—but also a considerable extent of the cord, especially the cervical and lumbar enlargements.

CASE 3.—D. H—, a boy, aged 1 year and 8 months, on night of July the 27th, 1909, was “queer and feverish,” and was noticed to have a squint. In the morning, left-side facial palsy was discovered. During this and the three days following he was drowsy; he would rouse himself for a drink, but was unable to sit up or to hold up his head. He was apparently unconscious, did not cry, and passed his stools and urine under him. After the third day he recovered consciousness, and was then noticed to be trembling all over, all four limbs being equally affected. To use his mother’s words, “he lay on my knee like a shivering lump.” He was very weak and unable to sit up. He swallowed well. The rate and amplitude of the tremor, as illustrated by the mother, again in this case resembled that seen in paralysis agitans. The tremor gradually got less during the following week, at the end of which he was able to sit up unaided. A week later he made his first attempt to walk, which brought back the tremor. Eventually the tremor disappeared, but is still noticeable in his arms when excited. He was unable to speak during the first week of his illness, and even now uses fewer words than formerly. He is more irritable, “not so strong on his feet,” and his movements are slower and stiffer since his illness. The stiffness was so marked that the mother drew the doctor’s attention to it. He was perfectly well until this attack, could walk at a very early age, and talked quite well.

He was first seen on September the 29th, two months after the onset of the illness, and found to be a big and well-nourished child, slightly irritable, but with no mental impairment. There was complete left-sided facial palsy of the peripheral type. The left external rectus was distinctly weak, with the result that an internal squint was present at times. The left conjunctiva appeared to be less sensitive than the right, and the left side of the face was distinctly less sensitive to painful stimuli than the right, *i.e.* the left VII, VI, and V (sensory) were affected. There was no evidence of impairment of motor part of V. The limbs showed no sensory changes. The movements of the arms were rather slow and stiff in character, and when he was excited the tremor was present in them, affecting the proximal rather than the distal portion of the limb. Of reflexes, the abdominals, knee-jerks, and ankle-jerks were present, and the plantars lively and flexor in type.

When last seen (February, 1910) the internal squint was less marked, but the facial palsy and anæsthesia were unchanged; there was no tremor.

The lesion here was on the left side of the pons, affecting the VII, VI, V nerves and the rubro-spinal tract, probably near its decussation, seeing that the tremor was originally present in all four limbs.

CASE 4.—A. Q—, a boy, aged 1 year and 3 months, was put to bed well on October the 19th, 1908, and although he slept with his mother, nothing was noticed until the morning, when he was found to be drowsy and to be “shivering” all over, but the limbs were not paralysed. No fits were seen, nor was the boy unconscious. The movements very rapidly got better, but the child was not able to walk for about a fortnight on account of the trembling of the legs. A week after the onset of the illness the right arm became useless, and hung down by the side. This paralysis was not accompanied by any constitutional symptoms, and was first noticed one morning after the child had had a normal night’s rest. He was the only child, and had had no previous illness except bilious attacks. There were no cases of infantile paralysis known of in the neighbourhood.

When seen on January the 29th, 1909, he was found to be a strong, fat boy, showing no trace of the tremor described by the mother. He was able to walk well and could say more words than before the illness. No mental impairment could be found. The right arm was paralysed, and hung flaccid at the shoulder. There was slight power in the fingers of the right arm. According to the mother’s statement, practically no impairment had taken place in the condition of the arm.

It would appear that a slight lesion had occurred somewhere in the cerebello-rubro-spinal system, and that there had been a relapse a week later (the usual time for a relapse when such does occur), affecting the cervical enlargement of the cord.

From a consideration of these cases it will be seen that they occurred in well-nourished children between the ages of fifteen months and four years, and in the summer and autumn. After a period of constitutional disturbance, varying in degree, which was or was not accompanied with convulsions, unconsciousness and incontinence, the slow rhythmic tremor, having the characters already described, appeared. It affected the limbs, trunk, neck, or tongue, or all of them, and was continuous except during sleep. After a varying period the tremor disappeared, but reappeared for a further length of time under excitement or on voluntary movement, and

remained longest in the proximal parts of the limbs, but eventually completely disappeared. Associated with the tremor was a certain amount of rigidity, which caused the movements of the limbs to be stiff and slow, but the pyramidal tract was never affected. In fact, these cases occurring in children and with an acute onset presented a striking resemblance to the adult disease—paralysis agitans. In addition to the tremor, other symptoms were present due to lesions in other parts of the nervous system.

In passing, it may be pointed out that two of these cases are also interesting in that they show two extremely rare lesions of polioencephalitis, *e. g.* in Case 1 there was transient blindness due to bilateral affection of the occipital cortex, and in Case 3 there is a polioencephalitis affecting the fifth nerve. Bremer has collected the statistics of cases of polioencephalitis at Great Ormond Street Hospital, and finds that out of 400 cases admitted in ten years only one showed transient blindness, and that lesions of the fifth nerve occurred in two.

The statement has been made that the cases described in this paper are instances of polioencephalitis attacking the cerebello-rubro-spinal system. There is at present no pathological evidence to confirm this view, because the illness is usually recovered from, as in poliomyelitis, but the localisation of the lesion in some part of the cerebro-rubro-spinal system appears to be quite justified in the light of Holmes's researches. Indeed, in some cases it seems possible to go further and to indicate which part of the system is affected—the cerebello-rubral if there is associated with the tremor some nystagmus; the rubro-spinal if there are associated V, VI, VII nerve palsies.

In the absence of pathological evidence that the lesion is of the nature of a polioencephalitis (*i. e.* a disease affecting the brain in identically the same way as poliomyelitis does the cord), recourse must be had to clinical evidence, which may be summed up thus (Miller) :

(1) The subjects of poliomyelitis are often strong and fat. This rule holds good in these cases.

(2) The seasonal (July–October) and the age (fifteen months to four years) incidence corresponds to that of acute poliomyelitis.

(3) The amount of constitutional disturbance at the onset of the disease is very variable, as in poliomyelitis, although it is natural to suppose that convulsions and unconsciousness are likely to be of more common occurrence.

(4) In poliomyelitis and in these cases the onset is acute and the

harm done reaches a maximum within a few hours. (It may extend over twenty-four hours—Gowers: compare Case 2 reported here.) Care must, however, be taken in examining the clinical history of the illness, for if the child is drowsy or unconscious the tremor may not be seen or be regarded as a convulsion, and it may be stated that the trembling came on some days after the illness.

(5) As in poliomyelitis the tendency of the disease is towards improvement or total recovery, while relapses are very exceptional.

(6) The result of examination of the cerebro-spinal fluid in those cases where it has been carried out is negative, as in spinal cases.

In no case had there been any of the exanthemata within a few months prior to the attack. This has previously been noted in polioencephalitis, and has been used as evidence against the essential similarity of poliomyelitis and polioencephalitis, but it is extremely doubtful whether poliomyelitis is as frequently preceded by the exanthemata as is commonly stated. Miller gives the figures for 1906 of the Great Ormond Street Hospital. Out of fifteen cases eight had never had any of the exanthemata at any time, and only one within three months of the paralysis. Out of twenty-six cases that I have seen whose onset occurred in 1909, twenty-one had never suffered from any of the exanthemata at any time, and only one within three months of the attack of poliomyelitis.

But there is more definite clinical evidence that these cases are examples of polioencephalitis:

(1) In Case 2 we have a spinal lesion, unquestionably acute poliomyelitis, affecting both right arm and leg, and occurring *at the same time* as the tremor. This may safely be said to constitute as positive a proof as is possible in the absence of pathological evidence.

(2) In Case 4 a spinal lesion, undoubtedly acute poliomyelitis, occurred as a relapse one week after (the commonest time for a relapse to occur) the development of the tremor.

Polioencephalitis will not account for all forms of acute tremor, for it has been seen associated with a tuberculous tumour, but a diagnosis of polioencephalitis can usually be made by a consideration of the type and age of the child, the season of the year, character of the onset, and the course of the disease, the absence of changes in the fundi oculorum and cerebro-spinal fluid, and in those cases where it does occur, the presence of an associated poliomyelitis.

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A SUGGESTED PLAN FOR A MODEL CRÈCHE.

By BERNARD MYERS, M.D.

IN recent years much good work has been accomplished in the improvement of crèches by a band of most earnest lady workers who have the subject deeply at heart, and it almost seems to be a presumption to make suggestions to them in this direction. The work of Emily Viscountess Helmsley (and her able help, Mrs. Meyer), has probably made for the great advance in the crèche generally which is everywhere discernible. The fervour, self-sacrifice, and devotion which scores of ladies have shown in the welfare of their crèches speaks well for the fine altruistic feeling which must be present. In this child life-saving work the medical profession has not been tardy with its help, and an excellent article written by Dr. Toogood ("The *Rôle* of the Crèche," in a book called 'Infancy,') should be read by all who are interested in this subject.

Having recently been invited to speak to some ladies interested in crèches, I took as my theme "the model crèche," and the chief suggestions which I made for their consideration were the following:

That the ideal or model crèche should be so arranged (*a*) that the day-nurseries, bath-rooms, etc., for the children's use ought to be on the ground floor; (*b*) that the kitchen, scullery, larder, pantry, mother's dining-room, and a laundry-room should be situated in the basement; and (*c*) that the matron's and nurses' bedrooms, sitting-room, students' room, cloak-room, etc., could be conveniently placed on the first floor.

The kitchen might be built beneath the coldest day-nursery; this would warm the latter in the winter, whilst in the summer the use of a gas-cooker and gas hot-water-heater would obviate the possibility of overheating the day-nursery in question. In practice this plan costs actually less than to use the ordinary kitchen range in the summer-time.

A mother's dining-room is called for in order to allow all those

mothers who can feed their babes at midday to have a meal before feeding their little ones. If mothers be allowed in the kitchen some slight disturbance of the harmonious working of the crèche is bound to be observed.

Although a laundry-room is suggested in the basement, it is only for ordinary washing, as the presence of much steam there could not be allowed.

It will be noticed that I made a special point of a sitting-room on the first floor, for the use of the matron and the nurses—this I maintain they well deserve.

The students' room for the use of young ladies from high schools, etc., or young girls from the council schools, who, attending once weekly for a definite period, could learn to cut out and make children's clothes for their own edification and the children's benefit. On the ground floor they would also be taught to bathe, dress, feed, and take care of the little ones.

I suggest three day-nurseries on the ground floor—one for children up to two years old, another for children between the ages of two and five years, and further, a small day-nursery for what might be termed "doubtful cases." The doubtful cases would include those children who are apparently well themselves, but who have come from a street in which there exists some slight infectious disease.

The matron's room is so situated that by means of little windows she can see into the receiving room, the three day-nurseries, the exit passage, and the clothes-changing room; thus she can easily ascertain everything that is taking place with regard to the children. The matron's room could also do the service of accommodating the committee for the meetings.

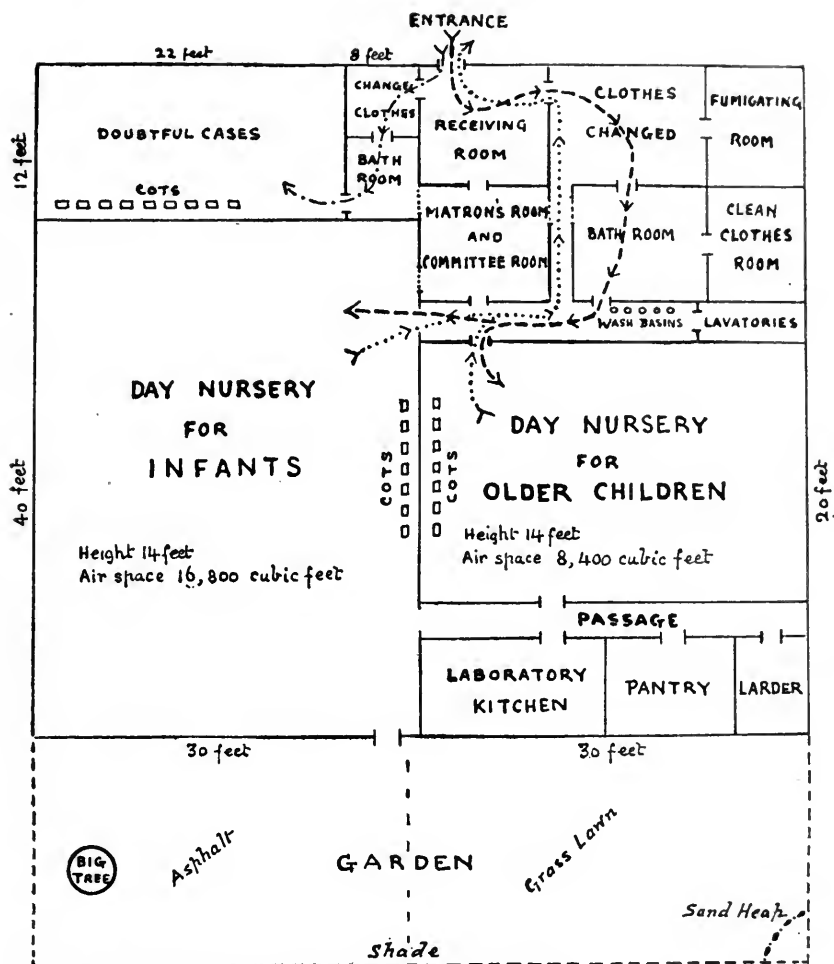
In the laboratory-kitchen the staff nurse would prepare daily the milk mixtures, etc., for each infant according to the doctor's prescriptions.

The accompanying diagram will explain my meaning much better than any words.

A nurse versed in the Froebel system would probably be the ideal person to have charge of the day-nursery for older children. Naturally, this means extra expense, but the results which could be obtained by such a nurse would more than balance the extra expense incurred.

Only the mere outline of the idea is given, and such important matters as ventilation and the routine of the day-nurseries are not considered here. I shall probably be told that the expense of

building such a crèche is prohibitive; this I do not believe, as the proper quarter for the fulfilment of this important matter is surely either the Government (by a special grant), or the Local Government Board. If neither of them will do this alone, perhaps one of them



NOTE.—The arrows indicate the entrance to, and exit from, the day nurseries.

would be willing to donate pound for pound to the amount of subscriptions which could be raised privately on behalf of this very important work, "the improvement and enlargement of our crèches." Beyond doubt some people will reply to my suggestions, that as a rule the crèche committees have to transform old houses into crèches, therefore, how is it possible to attempt to establish ideal

crèches? Now, I should be one of the last to deny full credit to the Gargantuan amount of useful and unselfish work which has been done regularly for many years by the members of the crèche committees, but they have been handicapped by want of funds in many instances, but may I also dare to say, with due humility, that I do not think that the best use is always made of the space available.

The Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, May the 27th, 1910.

Dr. WALTER CARR *in the Chair.*

A Case of Ateleiosis.—Dr. PARKES WEBER showed a man, aged 42 years, whose physical development is said to have been arrested at the age of nine. The patient was an infantile dwarf, whose physical development roughly corresponded to that of a boy aged nine, but his expression, the wrinkles on his face, his attitude, his manner of speaking, and his general behaviour were those of an adult. He was born in 1868, and it is said that his development had been normal up to the age of nine, but that it then ceased. The shape of his trunk, the undeveloped state of his sexual organs, the absence of any “pomum Adami,” and the high pitch of his voice were those of a child. There was no hair upon his face or pubes. Mentally he seemed normal. Skiagrams of the extremities showed persistence of some of the epiphysial cartilages, but the amount of union with the diaphyses varied considerably in different bones. There was no history of any similar condition in the family.

Dr. SHUTTLEWORTH said the condition was evidently a rare one, and it did not suggest to him any cretinism; the ateleiosis was the prominent character. Until the cases of sporadic cretinism were investigated so thoroughly as recently, such cases were probably lumped together with cases of cretinism; the differences between infantilism and cretinism were not then known. Very little had appeared in English on the condition, but he heard Mr. Hastings Gilford lecture on them, that authority pointing out that cases like the present one were allied to gigantism. The man now shown seemed to exhibit as much intelligence as could be expected considering the fact that during childhood he never went to school. He had some intelligence, as he earned eighteen shillings per week washing and counting bottles.

The CHAIRMAN asked what Dr. Weber suggested was the probable causation of the curious arrest of development in certain directions.

Dr. PARKES WEBER replied that he was glad it was thought that there was no cretinism in the case. He could not give any suggestion as to causation. He showed some skiagrams.

A Case of (?) Myositis Fibrosa.—Dr. WALTER CARR showed this patient, a girl, aged $4\frac{1}{2}$ years. There were three other children in the family, all healthy. The child had begun to walk when sixteen months old, but six months later was unable to walk or stand. Two years ago her arms had become weak. The child could not fully extend either the hips or the knees; there was no limitation of flexion, but abduction of the hips was much restricted. The left arm could not be completely supinated. There was no pain on movement; there was no rigidity of the muscles. The mental condition was normal. Skiagrams showed no definite evidence of bone disease, nor any ossification of the muscles. Some others who had examined the child thought there was some peri-articular thickening. There was slight wasting of muscles, which he regarded as due to tissue. There was no evidence of cartilages or bones being affected. It was not a primary muscular dystrophy, and there was no evidence of myositis ossificans. He did not think the amount of contraction of muscles was sufficient to account for the fixation of joints. Under anaesthesia the fixation remained as at present. A piece of muscle had been removed from the pronator radii teres, and microscopical examination did not show anything abnormal. The question was whether it was primarily a muscle lesion or a joint lesion. For some weeks he had given iodolysin by the mouth, and the lower part of the body had been put into a Tallerman bath, up to 150° F., fifteen minutes at a time, and massage and passive movements had been employed. Some improvement was noticed in the joints on the right side, not on the left.

Dr. CAUTLEY, in discussing the case, said he doubted the condition being one of myositis fibrosa, and thought it analogous to the contracture of limbs which one saw in prolonged toxæmic conditions where the patients were confined to bed.

Mr. LOCKHART MUMMERY agreed with Dr. Cautley that it was not ossificans fibrosa; the muscles felt normal. There seemed to be an absence of a satisfactory history. It seemed certain that the child must have suffered from an infective condition. He thought it a case of adhesions round the joints; there was no adhesion inside the joints, and the movements were smooth. The contraction of muscles he regarded as secondary to deformity of the joints, and the case coincided with those seen in children who had had improper treatment during a prolonged illness. He recommended that extension, by means of weights, should be put on both limbs for as long as five or six months, the weights being as much as the child could bear without pain and without the strapping cutting into the skin. The muscles and the fascial planes were shortened. He was not so sure that the hips could be got straight. He had tried iodolysin in several cases, and he had not been well pleased with it; there was some improvement for a week or two, and then the improvement stopped; one or two patients seemed to have got ill as the result of the use of fibrolysin and iodolysin. The present child should be watched. Two of his cases resembled erysipelas.

A Case of Amaurotic Family Idiocy.—Dr. BELLINGHAM SMITH showed the patient, a female, aged 11 months, who was brought to the hospital for blindness and inability to sit or hold her head up. The symptoms had only been noted for one month. The child was exceedingly fat, but the general condition was one of extreme apathy; no movements of head or body were attempted, and those of the limbs were limited. Further examination of the limbs revealed a variable degree of rigidity. An ophthalmoscopic examination revealed changes characteristic of the condition. These

changes were bilateral, and consisted of marked pallor of the optic discs, while in the yellow spot region there was a greyish-white area surrounding a bright pink spot. There had been no change in the condition since the patient had been in the hospital. Examination of the cerebro-spinal fluid and the Wassermann test had proved negative.

Two Cases of Congenital Malformation of the Heart were shown by Dr. WHIPHAM.

The first was a child, aged $1\frac{3}{4}$ years. Cyanosis was first seen when he was a fortnight old, and had persisted. It was very marked on the face; the extremities were deeply congested, and all the digits were clubbed. The heart was enlarged. At times there was no murmur, while at others a soft systolic bruit was audible in the pulmonary area. The child also had congenital ptosis of both eyelids. A blood count showed 9,440,000 red corpuscles and a hæmoglobin value of 170 per cent.

The second case was a girl, aged 18 years, with congenital pulmonary stenosis. She had always been cyanosed, and suffered from shortness of breath, but had had no other cardiac symptoms. She presented a typical blue appearance and clubbing of the digits. The heart was enlarged, and there was a typical rough systolic murmur.

The cases were discussed by the CHAIRMAN, by Dr. FRANCIS HAWKINS, who quoted a similar case of his own, who had been kept under observation until twenty-one years of age, and another case which had reached adult life. The case was also discussed by Dr. PARKES WEBER and Dr. CAUTLEY.

A Case of Air-swallowing in a Boy aged 12 years was shown by Dr. WHIPHAM. There was a habit of continuous forced eructations. The abdomen was not enlarged. The patient had suffered from a similar condition two years previously.

Dr. WEBER said there was a means of stopping the habit, namely, by applying to the mouth a rubber gag, which kept the teeth apart. It might not, however, remove the abdominal discomfort.

A Specimen of a Sarcomatous Tumour from a Child aged 2 years was exhibited by Dr. HILDRED CARLYLL. The specimen was removed from a girl who was admitted to the hospital suffering from distension of the abdomen, which had been noticed six weeks prior to admission. Abdominal exploration gave a negative result and exploratory laparotomy was performed. The tumour was discovered; it appeared irremovable, and the abdomen was closed. The child died a week after admission. At the post-mortem, the tumour, which weighed six and a half pounds, was found to be attached only by a few adhesions to the bladder, and by a branch of the left common iliac artery, and had a thin peritoneal covering. Microscopically it was myxo-sarcoma.

A Pathological Report on a Case of Myelogenous Leukæmia was read by Dr. WHIPHAM. The infant, aged 18 months, had been shown at a meeting of the Society on February the 25th, 1910.

A Paper on a Case of Malignant Endocarditis of the Tricuspid Valve in a Child aged 6 years was read by Dr. FRANCIS HAWKINS, and discussed by Dr. BELLINGHAM SMITH, Dr. CAUTLEY, and the CHAIRMAN.

Société de Pédiatrie, Paris.

April the 19th, 1910.

At this meeting the President, M. CHARLES LEROUX, announced with regret the death of Dr. George Carpenter, who was foreign corresponding member of the Society.

The Acetic Sublimate Reaction on the Stools.—M. TRIBOULET replied to certain criticisms with reference to this reaction made by MM. Aviragnet and Dorlencourt (*Société de Pédiatrie*, March, 1910), in which he re-affirmed its value in the prognosis of several infantile diseases.

M. VARIOT corroborated the results of M. Triboulet. In a large majority of cases the indications afforded by this method of investigation, which was as simple as it was practical, were in agreement with the clinical results of gastro-intestinal disorders. He did not speak of measles, scarlatina or diphtheria in which he had not tried the reaction, but he considered that it might be useful in estimating the danger and duration of gastro-intestinal disorders in early infancy.

Meyer's Reaction in Nephritis.—MM. G. PAISSEAU and L. TIXIER find as the result of their experiments that this reaction, which is based on phenolphthalein, is invariably negative in degenerative nephritis, while it is positive in congestive nephritis.

A Case of Chorea.—M. TRIBOULET related the case of a boy, aged 9 years, who suffered from a severe attack of chorea which had lasted two months, with febrile disturbance caused by a number of bed-sores, and excoriations of the skin. He suddenly recovered on the appearance of a suppurative arthritis of the elbow, which was surgically treated. Under the influence of digestive disturbances caused by over-eating, choreic movements reappeared for fifteen days.

A Case of Old Bulbar Paralysis in a Boy, aged 11 years.—MM. VARIOT and CHARLES ROBERT reported this case. The child walked with his legs far apart and took small steps. The right forearm was kept flexed on the arm. There was slight rigidity of the lower limbs, especially the right, and on abducting the thigh; the difference was more marked in the arms. Reflexes much exaggerated in lower limbs. Babinski's sign doubtful. No abnormality of sensation, nor muscular atrophy. He could neither speak nor imitate sounds. The lip muscles were not paralysed, but their movements were diminished. Complete protrusion of the tongue was impossible.

Achondroplasia.—M. APERT showed a boy, aged 16 years and 4 months. Radiographs showed in an exaggerated fashion the characteristics of the disease, and that the ossification of the epiphyses appeared at the normal time.

M. VARIOT was of opinion with regard to this last fact that the case was one of "osseous dysplasia," distinct from the true achondroplasia of Parrot, in which ossification is much retarded.

Scoliosis aggravated by Gymnastics.—M. OMBRÉDANNE read a paper showing that in true scoliosis with cuneiform vertebræ, easy to recognise by the fact that anterior inclination increases the deformity, all movements of flexion of the trunk must be prohibited.

M. OMBRÉDANNE also showed a case of **Ranula in which the Fluid exuded through Wharton's Duct.**

Pylorospasm of the New-born.—M. HENRI DUFOUR described a case of intractable vomiting, for the cure of which the administration of pepsine was eventually successful after all other methods had been tried. He thought such cases should be called gastro-spasm rather than pylorospasm and were associated with defective gastric chemistry and reflexivity.

M. COMBY mentioned a similar case in which nothing but change of nurse stopped the vomiting.

M. VARIOT agreed that this kind of vomiting was due to spasm of the entire stomach and not to a hypothetical pylorospasm. This could be demonstrated on the fluorescent screen. He also agreed with the beneficial effects of change of nurse as mentioned by M. Comby, but he had also obtained excellent results by milk super-heated to 108° or homogenised and with a small quantity of citrate of soda added.

Congenital Stenosis of Aorta.—MM. VARIOT and ROUDINESCO showed a boy, aged 10 years, in whom functional disturbances, pain and palpitation were absent, but who had a well-marked præcordial systolic thrill. The pulse in the radials was unequal, and presented marked divergence in the sphygmographs.

Obstetrical Paralysis of the Lower Limbs.—MM. VARIOT and BONNIOT showed a boy, aged 5½ months, born by breech presentation after a labour of six hours. The limbs were noticed to be flaccid and inert from birth. Cremasteric and patellar reflexes lost, tendon Achilles reflex normal. Electrical reactions showed the roots of the second to fifth lumbar, first, and perhaps second sacral nerves were affected.

Case of Mitral Stenosis with Dwarfism.—MM. MERY and ROUX showed a girl, aged 12 years. Her height was 1 m. 20, weight 20 kilog., thoracic circumference 58 cm.

Thrombosis of the Left Renal Vein in a Child aged 15 Months.—MM. RICHARDIÈRE and E. MERLE described this case. Admitted for broncho-pneumonia, death took place fourteen days later. The left kidney weighed 120 gm., was dark red and ecchymosed; the renal vein was occupied by a large clot extending almost from the vena cava to the hilum. The thrombosis seemed analogous to that of the adult, except in difference of location, *i.e.* a venous infection consecutive to a septicæmic condition, and comparable to phlegmasia dolens, and the presence of staphylococci in the clot in immediate contact with the endothelium gave support to this view.

Operation for Spina Bifida.—M. LAMY brought forward this case. The child was operated on three and a half hours after birth. A woodcut is given of the operation, which was entirely successful.

VINCENT DICKINSON.

Philadelphia Pediatric Society.

MEETING, April the 12th, 1910, CHARLES A. FIFE, M.D., President.

Several Cases of Bradycardia in One Family.—Drs. Z. M. K. FULTON (by invitation), G. W. NORRIS, and C. F. JUDSON exhibited three cases of heart-block and bradycardia in one family, one of them an infant. All showed the influence of heredity. The father, aged 41 years, had a pulse of 50 and suffered from angina pectoris and the Stokes-Adams' syndrome. The oldest daughter, aged 20 years, showed a pulse-rate of 60-68, was pale, easily tired, and a great sufferer from headache. Her jugular tracings showed heart-block. She had never had any syncopal attacks, but was easily winded on exertion. The baby, now ten years old, had shown a slow pulse of 40-50, which was found in the first week of life. He enjoyed good health during his first year and weathered a severe attack of broncho-pneumonia in his second year. Whether the cause of his bradycardia lies in an anatomical lesion in the bundle of His or is functional in nature must remain undecided.

Dr. WILLIAM PEPPER said that he felt that when this series of cases should be brought to the attention of those interested in the modern physiology of the heart, a good deal of speculation would arise, with the possible result of altering in some respects the views now held concerning the physiology of the heart. Although cases of heart-block have been reported in increasing numbers, Dr. Pepper thought this series of cases in one family unique. While it is impossible to explain this series of cases, they must be regarded as more than a mere coincidence. He imagined that Dr. Norris's last explanation might be correct, that it was some anatomical fault or peculiarity transmitted hereditarily. The tracings undoubtedly show a complete block, or complete dissociation between the auricles and ventricles. He thought that Dr. Norris had made out his case in claiming that the vagus nerve was not at fault, but that the lesion was actually in the bundle of His itself. That such a lesion could be transmitted from father to offspring seems a little hard to believe; although, since so many other conditions are transmitted in this way, there is no sufficient reason why this very important, though very minute, portion of the human anatomy should not also be liable to hereditary disturbances. The series of cases show that heart-block may develop where there is every reason to believe that no such lesion as sclerosis or gumma is present. In these cases there was probably merely a slight anatomical deviation or peculiarity transmitted to various members of the family, yet this lesion was at times sufficient to cut off the impulses that normally go through the bundle of His. At other times the bundle was apparently able to transmit these impulses perfectly well; and at still other times the impulses got through only imperfectly. Therefore all three conditions, complete block, incomplete block, and normal rhythm, were present at different times. For this reason, it might also be argued, the condition may not be due to an anatomical lesion, but may be purely functional.

Dr. FULTON said that he had found in the boy a constantly slow pulse. When at rest his pulse-rate was 40; when crying or disturbed it would not go above 50. It seldom went above 50, except a year ago, when the child had pneumonia; and even then it was not above 80. The heart always seemed to work well, and there never seemed to be any failure in circulation. The

child stood the attack of pneumonia as well as a child with a normal heart would.

Very Large Psoas Abscess.—Dr. J. T. RUGH showed a boy, aged 8 years, with a large dorsal kyphosis, who had had a large psoas abscess, extending to the left knee. His mother died of tuberculosis when he was three months old. At one year a knuckle was first noticed in his spine; but he went without treatment until three years old, when a plaster jacket was applied, which was worn only two months. No other form of appliance has since been worn. He never complained of pain though the deformity gradually increased. At five years a lump was first noted in the left thigh below Poupart's ligament, increasing and moving progressively lower till it reached the knee. By aspiration a quart of tuberculous pus was removed, an ounce of 10 per cent. iodoform emulsion injected and the cavity sealed. This was repeated four and ten days later, and the opening now remains, discharging a few drops of serum daily. Two months later a half ounce of bismuth paste was twice injected, at intervals of five days, after which a firm bandage was applied, and Dr. Rugh expects closure of the opening soon. The case shows to what degree nature will sometimes care for a person. It also illustrated the tremendous size a psoas abscess may attain and how it will travel before rupturing. The spine is practically solid now, and the need of a jacket or support of any kind has passed.

Dr. THOMAS O'HARA referred to a similar case that he had just seen at the University. The abscess was not so large as that in Dr. Rugh's case. Most of it was below Poupart's ligament, this part of the abscess being half again as large as an ordinary fist, but the part above Poupart's ligament was also quite large. The boy was ten years old, and the disease was of five years' duration, and had pursued a normal course. The abscess came on quite late in the disease, in its fifth or sixth year, and was probably due to the carelessness of the caretaker of the child. The brace was in bad condition and gave imperfect support. Up to this time the patient had been doing well. The child had not been brought to the dispensary for some time. These facts probably account for the late occurrence of the abscess.

Dr. RUGH remarked that he always follows out a certain line of treatment in these cases, in this way: If the abscess is rapidly enlarging, pointing, or interfering with the health of the patient, he opens it. If, however, none of these conditions is present, he lets it alone, because tuberculous abscesses are not real abscesses. He aspirates, instead of opening and draining such abscess, and his results have been much better than when he opened and drained with the persistence of a tuberculous sinus which becomes the seat of mixed infection and causes ill-health, amyloid changes in the internal organs, and the dissemination of the disease process. These bad features can often be obviated by simple aspiration. In other cases like that mentioned by Dr. O'Hara, in which brace-treatment is being followed, an increase of the support and fixation will often do away with the psoas abscess. Dr. Rugh had seen cases in which the abscess had appeared and disappeared three different times, and finally remained away under efficient support.

General Streptococcic Infection, with Symptoms of Empyema.—Dr. ELEANOR C. JONES reported the case of a boy, aged $2\frac{1}{3}$ years, with a most unusual temperature range. The chart shows a daily variation of from 5° to 8° . Illness began as acute purulent otitis media; pneumococci

were found in abundance in discharge from the ear and in smears from the throat. In a few days dulness developed at the base of the right lung posteriorly, over which fine râles and bronchial breathing were heard, while breathing was rapid and laboured. A diagnosis of encysted empyema was made, with a surrounding area of pneumonia. Repeated punctures failed to locate pus. The leucocyte count was 28,000, with 81 per cent. of polymuclear neutrophils. Streptococci and pneumococci were found in the aural discharge and bronchial mucus; streptococci were also found in the blood. An X ray showed a deep shadow over the right base posteriorly. The child recovered, and now shows a normal chest.

Dr. J. P. CROZER GRIFFITH said that he did not know what was the matter with the child at the time he saw it and did not think he knew yet. All physicians are accustomed to see irregular temperatures in children, running for quite a long period, due to causes not discoverable; but they do not present a chart like this—the most remarkable that he had ever seen. He still felt, as he had felt when he saw the child, that the case was one of empyema, though small, and maybe a spastic pleurisy, which the history rather indicated. From other experience Dr. Griffith was convinced that when symptoms of empyema are present, one may do a good many punctures without getting any pus until one happens to strike a single small spot. He remembered a case in which a puncture was made and a very small amount of pus obtained. The case was then turned over to the surgeons, who put in a large needle and found nothing. He concluded that a small pleuritic effusion is capable of causing a good deal of constitutional disturbance. He thought that in this case there was probably a septic infection coming from a very small area, the consolidation not depending on the fluid and not being of a fluid nature. Dr. Griffith had seen the child on two occasions and had heard about it many times. It maintained a remarkable degree of resisting power, never seeming to be in the profoundly septic state that one would expect with such a temperature.

Dr. ALFRED HAND, jun., said that the remark made some years ago still holds good—that we do not know all about infections. He thought he had understood Dr. Jones to say that streptococci had been found in the blood. He had been unfortunate in not being able to find them in similar cases. He had had cultures made, but had not discovered the germs causing the disease. In a similar case recently seen he punctured the right base, with negative result, which he explained on the ground of the physical sign met with so often in children—a lack of expansion of the base of the right lung, probably due to the presence of the liver in that neighbourhood. Children breathe more with the left than with the right lung. The origin of these cases is often a mystery. Sometimes there will be a focal symptom that will explain the origin—suppuration connected with some of the air-sinuses in the head. In one case he never found a focus. The child would have a normal temperature most of the day, and at 9 p.m. it would rise to 103° F., coming down about midnight or 3 a.m. The case went on for twelve weeks, when the child suddenly developed convulsions and died, and the autopsy did not explain the cause of death. Dr. Hand thought that this case was about as much a mystery as Dr. Jones's.

Dr. RUGH said that this case recalled one of which he had had charge for over a year. Anyone who meets with a case of infection in sinuses or other portions of the body in which metastatic conditions develop will realise one thing very forcibly—that is, the extreme virulency of the ordinary staphylococcus. Dr. Rugh's case had been seen by Dr. Hand over a year ago. It was

first treated as typhoid, and Dr. Rugh was not sure that it was not typhoid, the history of acute osteomyelitis being mistaken for typhoid fever being so common. The child had osteomyelitis of the femur on one side. After a few months he developed pulmonary symptoms, and Dr. Hand, who saw him then, said that he had pleurisy with effusion. Dr. Rugh saw the patient some months later, and recognised the extensive osteomyelitis and the empyema. He tapped and found a large quantity of pus, which contained staphylococci. Several operations were done and this finally healed. Then the patient developed an abscess at the head of the left humerus, which was opened, and small pieces of bone were discharged. He next developed a spot on the back of the left ankle, and pus was discharged from this. Dr. Rugh opened an abscess at the lower end of the left radius yesterday, and some weeks ago one at the posterior axillary fold, out of which small pieces of bone were discharged. Eight or ten inches of dead bone from the right femur have also been removed, and the boy is now recovering. Dr. Rugh concluded that one never knows when a case of staphylococcus infection is healed or how widespread may be the metastasis.

Dr. D. J. MILTON MILLER said that other conditions will give a temperature chart like that exhibited by Dr. Jones, and referred to a case of septic endocarditis which had a similar temperature chart. In regard to puncture of the chest and the inability to find pus when the physical signs indicate its presence, Dr. Miller said that he had seen a case with Dr. Harry Deaver, that of a young girl who had developed chest symptoms after appendicitis. Dr. Deaver punctured the chest fifteen times, and the last time got pus.

Dr. JONES commented on the paucity of references in the text-books to these irregular temperatures in children, none of them containing any real comment concerning the condition. It is so common to find children running temperatures that one cannot account for, and getting well without their having been accounted for, that the authors of text-books are not doing their full duty when they neglect to tell their readers something more about this subject.

Dr. MILLER added that one cause of such temperatures is just coming into notice now, viz. genito-urinary infection. He had seen a child over and over again since last fall, and had only recently discovered that the trouble was in the genito-urinary tract. For financial reasons he did not see this child very often during the winter. Its temperature would rise for a day or two and then it would apparently get well, and then the same thing would happen again. This had been going on since last January. A few days ago Dr. Miller examined a specimen of the urine, and found that the trouble was pyelitis. It is getting well now under the use of urotropin.

Mitral Disease and Adherent Pericardium.—Dr. A. E. SIMONIS (by invitation) exhibited the heart of a girl, aged 6 years, whose mother had died of cardiac disease. She had had frequent attacks of follicular tonsillitis. Autopsy showed adherent pericardium and a large vegetation, cylindrical in shape, half filling the left auricle and ventricle, attached to the papillary muscle in the ventricle.

Personal Observations on the Treatment of Ileo-colitis.—Dr. D. J. MILTON MILLER said that the difficulty of classifying infantile diarrhoeas from symptomatology alone was recognised. Yet there is a well-defined form of summer diarrhoea, usually denominated ileo-colitis, as the lesions have their seat in the ileum or colon, or both. The treatment comprises:

First, efficient purgation with castor-oil or magnesium sulphate. Calomel, because of its irritant properties, should never be used. No opium or bismuth must be given during this period. Second, absolute abstinence from all food except water for twenty-four hours. Third, cereal gruels, two ounces only, every four hours, alternating with a mild stimulant food, such as panopeptone or weak sherry and water. This may be flavoured with one drachm of beef-juice, alone or in two ounces of water. Small amounts of food are less apt to provoke peristalsis than are larger ones. After three or four days whey is added in half-ounce quantities daily, until one half of the mixture is whey. Then whole or skimmed milk, one drachm daily, is added, until a half ounce is given; then a half ounce every second, third, or fourth day. If this disagrees, condensed, malted, or butter-milk is tried, or peptonised milk. The early resumption of whey and milk is carried out as long as the temperature is not over 103° F., whether stools are numerous or not, provided these two features are not materially affected by the addition. The early use of milk maintains nutrition and recovery is hastened; fat is not well borne, hence whole milk is preferable to cream. As relapses are easily provoked, especially in older infants, great care with diet is necessary for a long time. The most valuable drug is castor oil, lessening tenesmus and mucus, and curtailing the attack. Epsom salts may be substituted. Bismuth is only of value when it blackens the stools. Opium is only necessary when pain is excessive, while morphine is valuable hypodermically when symptoms assume a choleraic type. Cocaine suppositories are of use for tenesmus. Dr. Miller only employs irrigations when there are five to eight mucous stools daily, never when stools are numerous or with much tenesmus. Irrigations with argentic nitrate are of value in prolonged cases with much mucus. Fresh air, warm daily baths, warm abdominal applications, are valuable adjuncts to the treatment. Special symptoms are to be treated according to accepted methods.

Dr. HAND said that many doctors failed to stop milk absolutely, although they thought they had done so. They have, however, kept on with whey or some milk food which furnished culture medium for the germs. Dr. Hand agreed with Dr. Miller that castor oil was probably the best purgative in these cases, although he had been using magnesium sulphate with as good, if not a better result. The investigations of Abt, of Chicago, show the value of the latter.

Dr. RUGH remarked that his father, an old country doctor, who has been practising for fifty-nine years, has been very successful in treating this class of cases. His favourite method of treatment is to give sulphate of soda (Glauber's salts, five grains to the dose, in solution) with a little sulphuric acid for a number of days. He is not a specialist, but he has obtained excellent results in the treatment of the summer diarrhoeas and ileo-colitis of children. He follows this method of treatment until he notices certain changes in the discharges, and then uses a preparation of thymol.

Dr. W. N. BRADLEY said that he had had two or three cases in which he had given bismuth in large doses, and found that it came through unchanged. He considered this to be probably due to the absence of certain gases in the digestive tract. At first he was sure that the child was passing curds of milk. As he had stopped the milk, he examined the mass and found it to be unchanged bismuth. In such cases the bismuth, of course, has done no good.

Dr. JONES stated that she gives castor oil in such cases, and that her indication for a repetition of the dose is the foul odour of the stools. She gives very little bismuth. With the use of castor oil and careful feeding,

stopping all milk and usually giving cereals, she finds that she can get her cases well more easily than by the old method of giving astringents. As the cases approach convalescence she endeavours to secure a little mother's milk. The children in such cases are, of course, usually bottle-fed; but if they can get an ounce or two of mother's milk a day, this will help towards a speedy convalescence. In the early stages Dr. Jones employs copious irrigation with chamomile tea, which she considers to be even a better irrigant than salines. She repeats this procedure during the first days of the illness, and stops it after she feels that the residual matter is all washed out.

Dr. HARRY LOWENBURG said that he had employed the Murphy treatment in two cases last summer. They suffered from marked toxæmia, as evidenced by extreme nervousness, irritability, delirium in an older child, and suppression of urine. Both cases were markedly benefitted, and in one the procedure seemed to be life-saving. He asked Dr. Miller whether he had had any experience with this treatment in these cases. Dr. Lowenburg was surprised to hear Dr. Miller recommend the use of pasteurised milk, and wished to know why he preferred to use pasteurised milk when the best certified milk was obtainable.

Dr. MILLER answered that Dr. Jones's suggestion in regard to mother's milk was excellent, but that the trouble was that this can rarely be obtained. In regard to the resemblance between unchanged bismuth and milk-curd referred to by Dr. Bradley, Dr. Miller said that he was glad this had been mentioned, and that he would insert this in his paper before sending it to the printer. He had known of this resemblance for a long time, and used to be deceived by it. Often he has been at a loss to know where the child had got the milk to produce curds, as he had told the parents to stop the milk. He has even accused them of not straining the whey properly. In some of these cases one may give bismuth for many weeks without its having the slightest effect upon the stools. As soon as the stools get black, the bismuth acts as an astringent; but Dr. Miller considered the reason of this to be that the bowels are regaining their natural condition. Dr. Miller said that he never uses the colonic Murphy treatment in these cases. He had, however, seen recently a case of pneumonia with extreme tympany, so great that it was killing the baby. All methods were tried without any result until the Murphy treatment was employed by the physician in attendance. Irrigations of this were given for two hours, and the tympany subsided entirely, the abdomen collapsing completely. The only reason that Dr. Miller had advised pasteurised milk was that he thought it should be employed merely as an extra precaution. He was inclined to think that summer diarrhœas have increased somewhat, because of the fact that no one uses pasteurised milk any more. His experience for many years has, of course, been largely at the sea-shore, his patients being, therefore, under the most favourable conditions. They do, however, acquire very severe types of this disease. He mentioned having seen recently in consultation a most severe case of ileo-colitis of five weeks' duration, in which the child of two years was still having twelve to fourteen putrid stools a day, with extreme emaciation. This case developed at the sea-shore; hence Dr. Miller was inclined to use pasteurised milk as an additional safeguard.

Nephritis following Varicella.—Dr. E. J. G. BEARDSLEY (by invitation) reported two cases of nephritis occurring during and after attacks of chicken-pox. One was in an Italian girl, aged 6 years, the other in a negro boy, aged 5 years. Albumin and casts were found in both cases in the urine.

Dr. BRADLEY said that Dr. Beardsley's reference to the lesions of chicken-pox becoming hæmorrhagic recalled to his mind a case seen at the Children's Hospital two weeks ago, in which all the lesions were hæmorrhagic. The child was intensely ill, and died on the fourth day. This case was seen by several physicians, who all agreed that it was varicella.

Provincial Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

May the 4th, 1910.

Dr. BYROM BRAMWELL *in the Chair.*

A Case of Tuberosc Sclerosis.—Dr. J. S. FOWLER described a case of tuberosc sclerosis, which had been recently seen by him, in a child aged 1 year. The parents were quite healthy, and the child had been normal in physical and mental development until the onset of the fatal illness, when epileptic fits occurred in rapid sequence. The condition on the child's admission to the hospital closely simulated tuberculous meningitis. On lumbar puncture the cerebro-spinal fluid was peculiar in the flaky coagulum that developed some time after withdrawal. Empyema supervened, and the child died. The author said that on analysis of the twenty-six cases of this condition recorded in its literature, he found eight were male and eighteen female. Most of these were in children, although in one case the condition was found post-mortem at the age of thirty-seven. Clinically they were characterised by mental dullness, followed by epileptic attacks occurring in series. Multiple renal tumours described as adeno-sarcomata were found in seventeen out of the twenty-six. Heart tumours occurred in four cases, but here account must be taken of the congenital heart tumours that produced death before the brain lesions had developed. Adenoma sebaceum occurred in a large proportion of the cases—seventeen out of twenty-six. This last was an important feature, and might be of value in diagnosis.

Dr. CARNEGIE DICKSON described the results of the post-mortem examination which he had made. The conditions found were tuberosc sclerosis—multiple hard tumours in the cerebral cortex and projecting into ventricles. There was a rhabdo-myoma of the heart. He showed lantern-slides illustrating the histological structure of these brain and cardiac tumours.

Dr. JOHN THOMSON recalled a case of adenoma sebaceum where there was no mental defect.

Dr. NORMAN WALKER also cited a case of a similar condition where the mental condition was average, and the patient when last heard of was alive and well at the age of twenty-two years.

Dr. FOWLER, in reply, said that adenoma sebaceum would only be of diagnostic value if accompanied by mental defect and epileptic fits.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

May the 5th, 1910.

Dr. G. BERRY, *President, in the Chair.*

Congenital Word-Blindness.—Mr. HERBERT FISHER, in a paper on inability to learn to read, reported four cases which had come under his own observation in one girl and three boys. In one of the male cases there appeared to be very suggestive evidence of a hereditary and family tendency to the defect, in another there had been considerable flattening of the left side of the cranium at birth, and a remnant of this deformity could still be easily recognised. The author thought it probable that as further examples of the defect were collected, the cases would be found to range themselves into two groups: (a) The hereditary group, in which the visual memory centre for words residing in the left angular gyrus failed in development; probably in this group a considerable portion of the female cases would be found. (b) A group due to limited meningeal hæmorrhage over the same gyrus, the result of birth injury. This group would account for the well-recognised great preponderance of congenital word-blindness in the male sex, due to the greater size of the head in male than in female infants at birth. He pointed out that larger meningeal hæmorrhages at the time of parturition, resulting in birth palsies, were twice as common in male as in female children. He urged the necessity for special and private tuition for children with this defect of congenital word-blindness, and he thought the phonic method of learning to read, making use of the glosso-kinæsthetic centre to aid the visual memory centre, less likely to lead to a satisfactory result than endeavours to train a vicarious visual memory centre in the right hemisphere. For such training he advocated the "look and say" method of learning to read: the child should use the "word" as its unit of observation and study and not the individual letters. The "look and say" system had been practically developed by Miss Mason, of 56, Romola Road, Herne Hill, S.E., in her "Delightful Reading Box" system, which the speaker had had used with most satisfactory results in one of the cases reported to the meeting.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

April the 22nd, 1910.

Mr. J. LENTAIGNE, P.R.C.S.I., *President, in the Chair.*

Nephrectomy for Tuberculous Kidney.—Mr. R. ATKINSON STONEY read an account of two recent cases of nephrectomy.

The second case was one of a girl who had been passing blood and

tubercle bacilli in the urine for over six months. The urine was segregated by Luy's segregator on two occasions, and both times the urine from the right side was normal; that from the left contained blood, pus, and tubercle bacilli. At the operation the kidney was found to contain a small cavity (about one drachm of capacity) in the upper half, representing the base of one of the pyramids. Under the microscope the walls of this cavity showed general round-celled infiltration and masses of red cells, but no definite tubercles. No blood, pus, or tubercle bacilli could be found after the operation, though several examinations of the urine were made. The author commented on the curious discrepancy between the symptoms and pathological findings in the two cases.

Mr. SETON PRINGLE thought the cystoscope was a great advance on the segregator in dealing with such cases. In ligaturing the ureter and vessels he had had trouble with silk, as it cut through and came out subsequently.

Dr. STOKES had had trouble in using the segregator, the methylene-blue which he injected returning down the other side.

Mr. C. A. BALL said he had found the segregator very useful in some cases, but if one used a cystoscope the segregator would rarely be required.

Mr. STONEY, in reply, said he considered catgut the best material in these cases. In respect of the segregator, the mistake in the use of it lay in the position of the patient. If the patient was put sitting up in a gynaecological chair, so that the legs were nearly at right angles with the body, there was no possibility of urine passing from one side to the other unless the bladder became over-distended. In most cases where there were symptoms of extensive injury he thought the sooner operation was done the better. In a young patient severe hæmaturia which was not affected or relieved by continued rest was almost pathognomonic of tubercle. The results which he had obtained with tuberculin had not been satisfactory; there seemed to be a great tendency to recurrence.

Abstracts from Current Literature.

Medicine.

Blood-pressure in diphtheria (*Deuts. med. Wochens.*, 1909, p. 1926).

—**M. Brückner** in the last two years has examined about 200 cases of diphtheria in the Dresden Children's Hospital with Gärtner's tonometer. At the beginning of the disease he found either a rise with subsequent fall or a subnormal pressure from the first. Subsequently the blood-pressure behaved in various ways. Horizontal readings were found in uncomplicated cases and in those with slight cardiac disturbances. In fatal cases the blood-pressure showed a steadily downward course. Kolossova had stated that a fall of blood-pressure was a constant premonitory symptom of diphtheritic paralysis, but Brückner could not confirm this. Brückner concludes that sphygmomanometry is not indispensable in diphtheria, since it is less valuable than examination of the heart, liver, and urine, and attention to the patient's colour and general condition. He thus differs from other observers, especially Friedmann, but is in harmony with Weigert, whose conclusions were based on the examination of 46 cases.

J. D. ROLLESTON.

Accidental vaccination (*Pediatrics*, 1909, p. 435).—**I. M. Heller** records two cases: (1) Boy, aged 14 months, admitted with left eye closed. The lids were swollen, reddish-grey in colour, and glued together by discharge. A smaller ulcer surrounded by pustules was found just below the lower lid margin. The conjunctiva was injected, but the cornea was not involved. The child had probably been infected by his sister, who had been vaccinated sixteen days previously. Nothing was done beyond keeping the eye clean. In twelve days the scab dropped off. A few weeks later the child was vaccinated on the arm, but with no result. (2) Boy, aged 6 years, vaccinated five days previously, showed a vesiculo-pustular lesion on the left arm and lesions in the same stage on the right ala nasi and right side of the nasal septum. The nasal inoculation was due to his having scratched his arm with contaminated fingers at the time of vaccination.

J. D. ROLLESTON.

Infectious disease and lactation (*Gaz. des Hôp.*, 1909, p. 1557).—**Brelet** thinks that in mild infections of short duration lactation may be continued. Roger found that only two out of a hundred sucklings caught their mothers' disease—in one case measles, in the other erysipelas. In mild smallpox if the child has been vaccinated there is no objection to lactation, but in severe forms the secretion is too much affected for lactation to be possible. Women suffering from mumps may continue to suckle, but the possibility of metastatic mastitis must be remembered. In diphtheria the nursing should be given a prophylactic dose of antitoxin. Except in very severe scarlatina, where the constitutional disturbance is as great as in typhoid, suckling may be continued (*v. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1907, p. 73). In every case care should be taken to reduce to a minimum the risk of contagion. The child should only be with the mother while taking the breast. All authorities are agreed that lactation should be discontinued during typhoid fever, for though the secretion may persist and typhoid bacilli are not present in the milk, suckling will prove too exhausting to the mother. It may be resumed, however, in convalescence if the disease has not been too long or too severe.

J. D. ROLLESTON.

The 1908 epidemic of acute poliomyelitis in Vienna and Lower Austria (*Wien. med. Wochens.*, No. 46, 1909, p. 2683).—**J. Zappert**.—This paper, which contains the results of a collective investigation of the Pediatric Section of the Vienna Gesellschaft für innere Medizin und Kinderheilkunde, is based on 266 cases, 137 of which occurred in Lower Austria and 129 in Vienna. The epidemic began in July, 1908, reached its height in September and October, and sank rapidly in January and February, 1909, but had not completely terminated by the following September. Most cases occurred during the second and third years of life. A large number of older children were affected but very few adults. The morbidity was higher among boys than girls. The dissemination of the disease did not appear to depend upon poverty or density of population. The cases are discussed according to the classification proposed by Wickman. The great majority belonged to the purely spinal form: 241 out of the 266 cases showed marked spinal symptoms. In most cases the legs were paralysed. An ascending or descending form resembling Landry's paralysis occurred in 14 cases. Older children and adults were chiefly affected. Many instances of the bulbar and pontine form were met with. Affection of the cerebral nerves manifested by ocular and facial palsy and difficulty in swallowing

was noted in 25 cases, and was associated with paralysis of the extremities. As a rule the bulbar and pontine symptoms disappeared entirely. Only a few cases of Strümpell's encephalitic form were seen. Zappert thinks there is no justification for creating separate classes for ataxic and polynuritic forms. It was impossible to state the frequency of the meningitic and abortive varieties because the physicians in attendance were not familiar with the existence of these forms, but many cases were recorded in this epidemic of the occurrence of meningeal and indefinite febrile conditions. Twenty-six of the cases died, a mortality of 10·83 per cent. Some of the fatal cases showed signs of Landry's paralysis and other severe meningeal symptoms, while a few succumbed to intestinal catarrh and pneumonia. Complete recovery took place in 37 cases, or 13·8 per cent. This figure is only approximative, since it does not take into account the abortive forms nor those in which recovery might occur later. In the epidemiological part of the paper it is shown that both in Vienna and in the provinces the cases were very unequally distributed. There was often an accumulation of cases within certain districts or among groups of houses. In eight cases, two instances of which occurred in Vienna, children of the same family were affected. Zappert concludes that poliomyelitis may be regarded as an endemic infectious disease which has suddenly assumed the proportions of a severe epidemic; its behaviour thus resembles that of cerebro-spinal meningitis.

J. D. ROLLESTON.

Congenital cyst of liver (*Arch. of Pediat.*, xxvi, 1909, p. 818).—**H. L. K. Shaw** and **A. W. Elting**.—Eighty-five cases of non-parasitic cysts of the liver were collected from literature by Moschowitz in 1906, to which the writers have added three more. Of the eighty-eight, two occurred in the foetus, seven in the newborn, four in the first year, one at eleven years, and the remainder in adults. The present case was in a girl, in whom enlargement of the liver was first noted when she was twelve months old. When seen by Shaw five months later the abdomen was greatly distended, but the superficial veins were not enlarged. There was no jaundice. The liver dulness extended from the upper border of the fifth rib to the right iliac fossa. The edge was sharp. Palpation and percussion caused no pain. An exploratory operation was made by Elting, who found the lower part of the right lobe of the liver occupied by a globular tumour which extended to the umbilicus: 900 c.c. of clear yellow fluid were withdrawn, which was found to contain a moderate amount of albumin, but no formed elements. Death without obvious cause took place two hours after the operation. No other malformation nor abnormalities in the organs were present. Microscopical examination showed considerable increase of fibrous tissue throughout the liver in the portal spaces.

J. D. ROLLESTON.

"Casein masses" in infant stools (*Arch. of Pediat.*, xxvi, 1909, p. 773).—**L. F. Meyer** and **J. S. Leopold** summarise their observations as follows: (1) The so-called "casein masses" cannot be considered unaltered casein. (2) The nitrogen of the faeces and the nitrogen of the food bear no intimate relation to one another. (3) The appearance of "casein masses" and even an increased amount of nitrogen in the stools do not point to a disturbance in proteid digestion.

J. D. ROLLESTON.

Gastric capacity of infants (*Arch. of Pediat.*, xxvi, 1909, p. 760).—**H. O. Mosenthal** thinks that the gastric capacity of infants as measured

during life or after death is a false guide as to the quantity to be given at each feed. The quantity of each feed may exceed the measured gastric capacity by a considerable margin. The interval between the feeds should never be less than two and a half hours for breast-fed children, and three hours for bottle-fed. Symptoms of overfeeding are in most cases due to too short intervals between the nursings, to improper dilution of milk, and especially to excessive fats.

J. D. ROLLESTON.

Hæmorrhagic varicella (*Cleveland Med. Journ.*, ix, 1910, p. 37).—**R. W. Elliott**.—A boy, aged 4 years, on the fifth day of a moderately severe attack of varicella, complained of stomach-ache and vomited clotted blood. Numerous petechiæ and ecchymoses were found scattered over the scalp, trunk, and limbs, and similar lesions were found in the tongue and tonsils. The urine contained blood which was probably of vesical origin. Blood was also present in the stools. The case was complicated by the boy, three days after the appearance of the hæmorrhages, swallowing a piece of gum, for which tracheotomy was performed. Death took place suddenly two days later. No autopsy. The literature is reviewed, and the cases of J. D. Rolleston and Porter are mentioned (*vide BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1906, p. 21, and 1907, p. 312).

J. D. ROLLESTON.

Pediatric work in Austria and Germany (*Arch. of Pediat.*, xxvii, 1910, p. 40).—**J. S. Leopold** gives a short account of the clinics of Escherich, Hamburger, Knöpfelmacher, and Lorenz at Vienna, of Czerny at Breslau, of Heubner, Baginsky, and Finkelstein at Berlin, and of Pfaundler at München.

J. D. ROLLESTON.

Sarcoma of kidney (*Pediatrics*, xxii, 1910, p. 42).—**E. J. Wynkoop** records a case in a girl, aged 2 years and 3 months, who died after an illness of about three weeks' duration. The urine contained a trace of albumin, with hyaline and granular casts. The autopsy showed a lympho-sarcoma of the right kidney, with metastases in both ovaries, cranial dura, and vertebral and orbital periosteum.

J. D. ROLLESTON.

Pneumococcic infection (*Arch. of Pediat.*, xxvii, 1910, p. 1).—**W. L. Carr** reviews the literature and records a case in a child, aged 1 year, admitted to hospital with acute conjunctivitis shortly after recovery from pneumonia. Pneumococci and staphylococci were found in smears taken from the eyes. The child had scorbutic symptoms, but there were changes in the ankle-joints independent of scurvy, and these were regarded as due to pneumococcic infection. All tuberculin tests were negative. Two months later meningitis developed. Lumbar puncture showed pneumococci. Death occurred nine days after the onset.

J. D. ROLLESTON.

The dwarf tape-worm (*Arch. of Pediat.*, xxvii, 1910, p. 100).—**O. M. Schloss**, in the routine examination of 230 children of the poorer class in New York City between two and twelve years of age, found the ova of *Hymenolepis nana* in fourteen. Eight of these showed gastro-intestinal or nervous symptoms. Eosinophilia was present in seven of the eight cases, but was uniformly absent in those who had no symptoms. Infection possibly arises from contamination of food with the faeces of infected rats or mice. Treatment with male fern is effective, but may require repetition.

J. D. ROLLESTON.

Unusual persistence in secretion of colostrum (*Arch. of Pediat.*, xxvii, 1910, p. 32).—**H. M. Steele**.—A female child, healthy at birth, lost seventeen ounces in the first fourteen days of life, though she was nursed regularly and had no vomiting nor regurgitation. The stools were green and contained an excess of mucus mixed with both fat and proteid curds. Seborrheic eczema was present on the face and chest. The mother's milk was abundant and of a rich yellow colour. Microscopical examination showed that the vast majority of corpuscles were colostrum bodies. A similar finding was made in a specimen taken thirty-two days after birth. The child was weaned and gained four pounds twelve ounces in nine weeks.

J. D. ROLLESTON.

Death due to status lymphaticus (*Pediatrics*, xxii, 1910, p. 178).—**P. L. Parrish**.—A girl, aged 25 days, was admitted to hospital for purulent conjunctivitis. She had no digestive disturbance, and was ready for discharge when sudden death occurred three weeks after admission. The autopsy showed a large thymus weighing slightly over nineteen grammes. There was no evidence of any pressure on the trachea. All the other organs were normal, and there was no glandular enlargement.

J. D. ROLLESTON.

Aberrant vaccinia (*Zentralbl. f. Gynäk.*, 1910, p. 81).—**Weisswange** records a case of vaccinia of the vulva, groin, and perinaeum in a woman suffering from leucorrhoea. The irritation of the discharge had caused her to scratch herself directly after dressing the arm of her recently vaccinated child (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1909, p. 377).

J. D. ROLLESTON.

Herpes zoster in children (contribution à l'étude du zona chez l'enfant) (*Thèses de Paris*, 1909-10, No. 84).—**Galka**.—This thesis contains the histories of ten cases, four of which are original, in children whose ages ranged from four days to twelve years. In two of Galka's cases lumbar puncture was performed, but in neither was any cellular reaction found. Up to the age of two years herpes zoster is very rare. It is commoner in boys than in girls. It is more frequently accompanied with fever than in adults. Initial digestive disturbances often occur. Intercoastal zona is most frequent, lumbo-abdominal and cervico-brachial lupus come next, while ophthalmic herpes is very rare in children. The disease is milder and of shorter duration than in adults. Sensory troubles, such as hyperæsthesia, anæsthesia, and neuralgia, do not occur. The only sequelæ recorded are repeated epistaxis, urticaria, and adenitis.

J. D. ROLLESTON.

Ultero-membranous meningococcic pharyngitis (*Berlin klin. Wochens.*, 1909, p. 1360).—**F. Reiche**.—A girl, aged 12 years, was admitted to hospital in June, 1907, as a case of diphtheria. Soft deposit covered the tonsils, pillars, and uvula. The appearance of the throat, however, more closely resembled that presented by corrosive poisoning than diphtheria. The patient was comatose, and vertebral and nuchal rigidity, together with Kernig's sign, was present. Lumbar puncture gave issue to a turbid fluid under hypertension containing meningococci. Throat cultures showed meningococci mixed with staphylo- and streptococci, but no diphtheria bacilli. Death took place two days after admission. Reiche insists on the importance of recognising this form of sore throat, cases of which

were described by McKenzie and Martin in the Glasgow epidemic, so that serum treatment may be at once adopted.

J. D. ROLLESTON.

Researches on the diarrhœa of infants ('*Gaz. Med. de Paris*,' January 1, 1910, p. 5).—**E. Metchnikoff** has studied the intestinal flora in acute gastro-enteritis of infants, which he finds much less complex than in adults. This flora, which plays an important part in the physiological phenomena of nutrition, has a serious bearing not only in affections of the digestive track, but also in disturbances of nutritive metabolism, and in diseases of the nervous system, skin, and kidneys. Experiments which resulted in causing diarrhœa in young rabbits at the breast by administering portions of the stools of infants suffering from acute gastro-enteritis, prove that this latter is an infectious malady. Experiments on chimpanzees gave analogous results, the influence of food and high temperature being excluded. The author at first thought that the infective agent was to be found in paratyphoid bacilli, but soon became struck with the constant abundance of *Bacillus proteus*, occurring in thirty cases out of forty. It developed readily on gelatin. The experiments were then repeated by administering to the rabbits and chimpanzees pure cultures of *proteus*: the resulting infection, instead of showing itself as diarrhœa, took the form of a fatal dry cholera. Assuming that *proteus* plays an important part in infantile diarrhœa, a search for the source of the infection disclosed the fact that it was rarely met with in cow's milk. On the other hand, house dust and faecal matter from a number of animals contained it, and it is found on the outer layer of most food-stuffs, including cheese, grapes, and salad. The author concludes that the micro-organism is transported by flies from the dejecta of animals to the articles of diet which are consumed raw, and thus introduced into the digestive track of persons who eat them. Prolonged contact of these persons with nurslings is sufficient to contaminate them with the microbe, which, though well tolerated by adults, provokes diarrhœa in infants. Hence the means taken with regard to milk by sterilisation, etc., are not sufficient, but attention must be directed to keeping the hands clean, washing certain food-stuffs, purifying the streets, and destroying flies.

VINCENT DICKINSON.

Culture of the parasite of infantile paralysis ('*La Clin. Infant.*,' February 15, 1910, No. 4, p. 104).—**C. Levaditi**, in the course of his experiments, noticed the presence of a large number of rounded or slightly oval corpuscles, often in pairs or in masses, and brilliantly coloured red. They were extremely small and presented a faint polymorphism. They were not stained well with anilines. Fuchsin, however, in prolonged application stained them pale pink. With Giemsa small red or oval points stained faintly blue were noticed.

VINCENT DICKINSON.

The gastric digestion of fats in nurslings ('*La Pædiat.*,' January, 1910, No. 1, p. 1).—**G. Finizio**, from a series of investigations carried out by him, finds that glycerine extracts of the gastric mucous membrane prepared from the dead bodies of nurslings have a marked lipolytic action on the fats of yolk of egg, human milk and cow's milk, dissolving 22 to 37 per cent. of the fat. In healthy infants an hour after a feed with human or cow's milk, in the gastric contents drawn off the fats were separated to the extent of 5 to 6 per cent. Two or three hours after a feed the separation of fat was represented by a somewhat higher figure, but not above 10 per cent.

The separation of fat in cow's milk did not vary, whether it was raw or sterilised. In children ill with digestive maladies, in the stomach contents either extracted or ejected spontaneously by vomiting, in general the fats were separated in a larger proportion than in healthy infants. In several cases of gastric dyspepsia with habitual vomiting, and in one case of acute gastro-enteritis, also accompanied by vomiting, a marked proportion of separated fats was found.

VINCENT DICKINSON.

A case of acute circumscribed œdema (*'La Clin. Infant.'* February 15, 1910, No. 4, p. 106).—**P. Lereboullet** and **Faure-Beaulieu** described the case of a boy, aged 15 years, who for three months was the subject of a morbid condition characterised by successive and sometimes overlapping attacks of localised œdema, ephemeral and painless, involving the subcutaneous cellular tissue of the scrotum and the skin of the trunk and limbs. There was temporary albuminuria, due, perhaps, to renal œdema, no cardiac lesion, a marked neurotic history, both hereditary and personal, concomitant gastro-intestinal organs. The symptom-complex corresponded to Quinke's disease.

VINCENT DICKINSON.

The buccal mucous membrane as port of entry of tuberculosis (*'La Pædiat.'* December, 1909, No. 12, p. 881).—**E. Giliberti**, from experiments made by him, concludes: (1) That the buccal mucous membrane can give passage when unaltered structurally to Koch's bacillus. (2) That this method of infection, at least in childhood, is much more frequent than is generally supposed. (3) That the prophylactic measures to be adopted against the propagation of tuberculosis in infancy must be specially directed to preventing contagion through the mouth according to precepts suggested by Marfan in the Congress of Paris of 1905.

VINCENT DICKINSON.

The sepsis of the cerebro-spinal fluid in relation to the various nervous diseases of children (*'La Pædiat.'* February and March, 1910, pp. 134 and 180).—**P. Sorgente** contributes an extensive paper on this subject, with numerous cases and a useful bibliography on the cytology of the cerebro-spinal fluid. From his observations he concludes that there frequently exists in children a condition of sepsis of the cerebro-spinal fluid, both in connection with definite diseases of the nervous system and in relation to morbid syndromata which do not fit in with any well-known pathological condition. In the cerebro-spinal fluid procured by lumbar puncture, especially in cases of indefinite nervous symptoms, micro-organisms are often found unaccompanied by leucocytes. The micro-organisms are at times numerous, and are met with on microscopic examination of the cerebro-spinal fluid, whether centrifuged or not; at other times they are scarce and require cultivating for adequate investigation, especially on solid media (agar, simple or glycerinated, or blood-agar, etc.). It is evident that an ætiological and pathological importance must be attributed to this bacteriological discovery which cannot be purely accidental. In all the cases of nervous disease investigated by the author, whether of definite clinical type or indefinite, the happiest results followed lumbar puncture.

VINCENT DICKINSON.

Neuroses of the sympathetic system during measles (*'Gaz. deg. Osp.'* October 26, 1909).—**Licciardi** describes a recent epidemic of measles at Catania, which affected both young and old. In several instances the disease

occurred for the third time. Bronchitis and pneumonia were frequent complications, as also was gastro-intestinal catarrh, which sometimes simulated typhoid and was accompanied by signs of meningeal irritation. In several cases he met with a neurosis of the sympathetic system, of which the following are instances. A child about two years of age, during the eruptive stage, developed spasm of the larynx. The vocal cords appeared to contract slowly, closing the glottis completely, until the accumulation of CO_2 in the blood stimulated the respiratory centre and induced a deep inspiration. The spasm then subsided for an instant. Mustard to the chest, and bromides, cannabis indica, and belladonna internally brought about a relaxation of the spasm in a few hours. It returned, however, two days later, when it yielded as before to the same measures. Another child had attacks of typical asthma for the first time, nothing of the kind being known in the family. In a third the spasm affected the intestines. The severe pain was not accompanied by any objective signs, but continued until relieved by the same measures.

T. R. WHIPHAM.

Recurrent vomiting with acetonuria (*Journ. Amer. Med. Assoc.*, December 18, 1909).—**Burrage** saw two cases in a brother and sister, whose parents were distinctly neurotic. The boy, aged 7 years, was breast-fed during the first six weeks of life, but with poor success, and subsequent attempts to find a suitable milk diet were in vain. He constantly vomited, and was subject to colic and indigestion. The attacks of vomiting apparently continued at intervals, but it was not until the fifth year that acetone and diacetic acid were demonstrated in the urine and a correct diagnosis established. Since then he had been seen in ten attacks, though he had had many others, and at these times acetone had always been detected in the breath and in the urine. The attacks recurred in from five weeks to five months, and lasted four or five days, being attended with marked emaciation and prostration. In one of the latter there was considerable hæmatemesis. As the boy grows older the attacks are becoming less frequent, and should cease within a year or so. The girl was nearly four years old, and like her brother, was small, thin, and neurotic. She was nursed for nine months, with occasional feedings of cow's milk. She suffered less from vomiting and indigestion than her brother, but when put on cow's milk entirely it was found that her capacity for fat was very limited. At about eighteen months she had her first attack of severe vomiting, which was accompanied by acetonuria. Since then she had had four recurrences, with prostration and emaciation, the presence of acetone and diacetic acid being demonstrated each time.

T. R. WHIPHAM.

The sterilisation of infants' clothing (*Lyon Méd.*, September 2, 1909).—**Weill** finds that the steam laundry is insufficient for the proper sterilisation of infants' clothing. They are apt to pick up germs during the transit from the laundry to the infants. From a nurse's apron fresh from a steam laundry in the building, streptococci, staphylococci, diplococci, etc., were cultivated. The writer now insists on having the infants' clothing sterilised by steam under pressure for twenty minutes; they are then sorted according to their nature and placed in sterilised bags until required. A separate bag is used to hold the gauze sponge used in washing the child. The nurses are trained never to let their hands come in contact with those parts of the linen that come next to the child's skin. The children are washed with the gauze sponge taken from the bag, dipped into boiled water

and lubricated with sterilised olive oil, and the nurse's hands are thoroughly disinfected before she takes anything out of one of the bags. When a bed is vacated the mattress is disinfected and the ironwork singed with alcohol. Since introducing these measures the mortality in his wards dropped from 41·8 per cent. in 1901 to 26·7 in 1903, and has been declining since. The skin of an infant, he declares, is so sensitive that it should be treated like an open wound.

T. R. WHIPHAM.

Transient presence of casts in urine of healthy infants (*Journ. Amer. Med. Assoc.*, January 8, 1910).—**Goldsmith** out of curiosity examined the urine of a perfectly healthy male child, aged 11½ months, who had been properly fed and weaned after nine months. He was surprised to find in it a large number of hyaline and pale granular casts, "an appearance suggesting the showers of casts seen in adults." There was neither albumin, blood, nor any other constituent to suggest renal disease. The day before the child had possibly not been quite so lively as usual, but there was nothing indicative of ill-health, and on the day in question was as well as possible. Daily examination of the urine for the next two weeks and occasional examination subsequently, however, failed to reveal anything abnormal.

T. R. WHIPHAM.

Congenital cystic elephantiasis (*Australas. Med. Gaz.*, October, 1909).—**Giblin** describes a fœtus in which the right arm, thorax, left upper arm and neck were so distorted by serous pouches as to be almost distorted beyond recognition. The right hand was eleven and a half inches in circumference, the same size as the head, and could only be recognised as such by being divided by sulci into five digitations. The thorax was sixteen inches in circumference and the mammary region hung in four pouches. The skin of the affected parts was so distended as to be almost transparent, and the epidermis easily peeled off, allowing serum to flow.

T. R. WHIPHAM.

So-called acute epidemic anterior poliomyelitis (*Semaine Med.*, November 24, 1909).—**Lhermitte** discusses the reports of various epidemics of acute anterior poliomyelitis, and remarks that they do not all conform to a single type of disease. The reports include a number of inflammatory affections of the nervous system and meninges, such as simple or hæmorrhagic polio-encephalitis, diffuse encephalitis and myelitis, meningomyelitis, meningo-radculitis, and polyneuritis. He considers that a further study of the lesions of the cerebro-spinal axis following acute meningitis will explain the close connection between the epidemics of acute spinal paralysis in children and adults and the epidemics of cerebro-spinal meningitis. A paralysis of meningeal origin can be differentiated from that of anterior poliomyelitis by the meningeal symptoms, viz. lymphocytosis or presence of polymorpho-nuclear cells in the cerebro-spinal fluid, severe pain in the limbs, the slower recovery from the paralysis, and the absence of atrophy in the muscles involved.

T. R. WHIPHAM.

Meningo-encephalitis with complete idiocy and arrest of physical development (*L'Echo Med. du Nord*, April, 1910).—**Damage**.—The patient was a girl, aged 27 years, who had lived in bed for eleven years, only rousing for food or to knock her head against the wall. On attempting to move her she hits herself and others. Her aspect was that of a child of fourteen or

fifteen years. Hydrocephalic; almost completely blind; some scoliosis. She stood or walked with great difficulty. Height 1.42 metres. Limbs, hands, and feet well formed, but like those of a child of fourteen. Ears lobed. Canines and incisors have not appeared; arch of palate normal. Pupils equal, react to light. Menstrual function absent. Speech wanting. General sensation much blunted. Towards the end of her life attacks of suffocation occurred, in one of which she died. At the necropsy the intra-muscular septum was incomplete. The genital organs those of a child of ten years. Membranes of brain adherent, with great excess of subarachnoid fluid. The brain weighed 1025 grm. Lateral ventricles enlarged. Pia mater thickened universally and adherent to the dura over the parietal and temporal lobes. The convolutions were normal in type, but the cortical substance was reduced in thickness with very numerous round cells between the nervous elements. The nerve-cells are reduced in numbers; the large pyramidal cells are narrowed, lengthened, and sometimes folded, with little chromatic substance; nucleus deeply stained. There is no perivascular infiltration. Stained by Weijert-Pal method the cortical plexus is less thick than normal, and the tangential fibres show many small swellings. Similar changes were found in the right caudate nucleus, cerebellum, and cord. No family history was obtainable, but the author thinks the cause might be hereditary syphilis or parental alcoholism.

J. PORTER PARKINSON.

On the difficulty of diagnosis in the child between minor epilepsy and hysterical seizures (*Gaz. hebdomadaire des Sci. Med.*, April, 1910).—

Cruchet gives two examples of this difficulty. The first was in a boy, aged 8 years, who had an occasional tremor of the eyelids, the eyes turning upwards, lasting three to five seconds; at the beginning these crises occurred twice daily, but increased to forty or fifty a day. There were no other phenomena with the attack, and the boy appeared physically healthy and mentally sound, but there was a large scar in the upper part of the occipital region due to a fall. The boy was quite conscious of the attacks. **Cruchet** diagnosed hysterical convulsive tic. No treatment seemed of any avail. The second case was a girl, aged 9 years, who for four or five months, two or three times weekly, had an attack in which she stopped what she was doing, turned the eyes up with a fixed expression, and raised up the arms. In a few seconds the attack was over and she resumed her occupation. At first she denied knowledge of the seizures, but when pressed she admitted consciousness of her actions. This was doubtless an hysterical attack. The difficulty of diagnosis is increased by the physician rarely seeing an attack.

J. PORTER PARKINSON.

Some reflections on icterus neonatorum (*Journ. de Med. de Bordeaux*, March, 1910).—

Cruchet considers the division of Frank into true and false jaundice is a good division, the false jaundice being the reddish tint over the whole skin, beginning on or before the third day, and gradually becoming yellow, but without any disturbance of the general health. The conjunctivæ are not coloured and there is no bile in the urine; the fæces are not abnormal. The true jaundice begins by digestive disturbance, refusal to take the breast, and later, jaundice, commencing in the conjunctivæ and extending over the skin. The urine is bile-coloured and the fæces pale. In the false jaundice **Lernet** has shown the presence of hæmolytic, but in true jaundice this is absent.

J. PORTER PARKINSON.

A case of congenital myxædema with post-mortem (*La Semana Med.*, September 13, 1909).—**Arquellada** describes this typical case of cretinism in a girl, who improved under treatment with thyroid gland and died of an intercurrent intestinal disease. The thyroid gland weighed at the post-mortem 8 grm., and consisted of adipose and connective tissue.

M. D. EDER.

Syphilitic sciatica in a girl, aged 8 years (*La Semana Med.*, August 5, 1909).—**Cueto** saw in consultation a child who had been suffering for eight months from severe pain in the right gluteal region and leg, pain which had only been relieved by injections of morphia, and which lasted four to five days and then disappeared; the pain had appeared and always disappeared during the night. For the last six months she had been suffering frequently from headaches. The illness had been variously regarded as of either malarial or rheumatic origin. The whole of the right limb was painful, and tender spots existed at the gluteal, trochanteric, and popliteal regions along the course of the sciatic nerve; the examination was otherwise negative. By a process of exclusion syphilis was suspected, although congenital syphilis could be excluded. The mouth was opened for an examination of the teeth; a cicatrix was found on the buccal side of the right lip meeting the skin. The appearance of the cicatrix was similar to that of indurated chancres of the mucous membranes. It was then ascertained that a year previously she had an ulcer which had healed with Van Swieten's solution (liq. hydrarg. perchlor.). On treatment with injections of iodide of mercury the sciatica was at once relieved.

M. D. EDER.

A case of spastic spinal paraplegia (Strümpell's disease) (*La Semana Med.*, October 7, 1909).—**Jakob** demonstrated before the Argentine Medical Society the case of a boy, aged 11 years. At five years he walked with difficulty; he could not get upstairs. At seven there was spastic paralysis, the foot in a position of equinus; there was no muscular atrophy. The reflexes increased, patellar and heel; Babinsky present. The sensory reflexes normal. The child was an idiot (in Strümpell's case there was no intellectual change). A year later the child could not move; he died of broncho-pneumonia. Post-mortem: Surface of brain and meninges normal. The medulla small, pyramids small, bulb flattened. Corpus callosum and commissures were small. Degeneration of both pyramidal fasciculi. Goll's column very small. Degeneration of the cerebellar column in the cervical and superior regions. Microscopic examination showed atrophy of the giant cells of the grey matter, and degeneration of the white fibres. He pointed out that whereas in Little's disease the child is born with the affection, in Strümpell's the disease comes on long after birth. There were two brothers of the child suffering with the same disease. [No mention was made of healthy members of the family, if any.]

M. D. EDER.

Tumours of the pineal gland in children (*Académie de Médecine, sitting of March 15, 1910*).—**MM. Raymond and Claude**.—The patient was a boy, aged 10 years, who had had for three years symptoms of tumor cerebri, together with adiposity, abnormal increase in size and weight, genital hirsuties, and atrophy of the testicles. The hydrocephalic condition increased rapidly, accompanied by persistent sleepiness, apathy, and so forth. The post-mortem revealed a glioma of the pineal gland. The condition above described may, in some ways, be compared with the symptoms which

develop as a result of tumours of the pituitary body. In a short paper on "Adipositas Cerebralis" read by me before the Philadelphia meeting of the American Dermatological Association in 1909 (*Journ. of Cut. Dis.*, vol. xxvii, 1909, p. 554), I pointed out that as far as the skin was concerned sections showed, in addition to what might be well termed "adipositas," a hypertrophic condition of the derma itself existed, the collagen and elastic tissue being very coarse and hypertrophied. At the time I ventured to point out that the term "dermo-adipositas cerebralis" would, perhaps, fit such cases better. The patient was not a child, but a woman, aged 29 years, who became fat, flabby, and apathetic. Comparing her case with that of the child referred to by MM. Raymond and Claude, it may be noted that the woman became amenorrhœic. The premature pubic hairiness of the child shows in the case of the pineal gland tumour that not only was the subcutaneous fat increased, but that a stimulus was also given to the pilous apparatus. It is very likely that the derm was hypertrophied in the child as in the woman, whose skin I examined. On the other hand, in connection with the hypophysis, there is the case of a man on record (Schloffer, "Erfolgreiche Operation eines Hypophysentumors auf nasalem Wege," *Wien. klin. Wochens.*, 1907) in whom the hair of the axillæ, beard, etc., stopped falling out and began to grow again after the pituitary body tumour had been partially removed by operation.

GEORGE PERNET.

Transmission of acute anterior poliomyelitis to monkeys (*Amer. Journ. of Obstetrics and Diseases of Women and Children*, March, 1910).—**Simon Flexner** and **P. A. Lewis** have shown that the virus of epidemic poliomyelitis, obtained in an emulsion of the spinal cord of fatal human cases, is readily transmissible from man to monkey, and from monkey to monkey when injected into the brain, the peritoneal cavity, the sciatic nerve, the subcutaneous tissue, or into the circulation direct. The successful transmission of this virus is followed by effects which evidence the usual symptoms of infantile paralysis in human beings. The same observers have further shown that probably the infecting agent of epidemic poliomyelitis belongs to the class of the minute and filterable viruses which have not yet been demonstrated under the microscope. To determine whether an attack of epidemic poliomyelitis followed by recovery will afford immunity to reinfection, the writers have reinoculated several recovered monkeys, and have noted in some instances failure of the virus to act, though causing paralysis in the control monkeys. (References: *Journ. Amer. Med. Assoc.*, November 13, December 4, December 18, 1909; January 1, 1910.)

J. HOWELL EVANS.

Therapeutics.

Serum treatment of hæmophilia (*Mitteil. a. d. Grenzgeb. der Med. u. Chir.*, vol. xx, No. 5).—**Trembur** illustrates the value of sero-therapy in hæmophilia by the case of a girl, aged 13 years, who was known to be a bleeder, but was otherwise healthy. There was no history of such a condition occurring in other members of the family. The child's blood showed a considerable diminution in the number of red corpuscles and half the normal amount of hæmoglobin. After hæmorrhage from the mouth, throat, gums, and left ear, and also from the nose, which necessitated plugging, 5 c.c. of sheep's serum was injected into the left upper arm, with the result that in four hours the epistaxis was arrested; it recurred two days later, but was

checked by plugging the nostrils with gauze soaked in sheep's serum. The bleeding from the gums was also arrested by local serum applications. A severe hæmorrhage from both ears then occurred, and at once 10 c.c. of sheep's serum was injected into each thigh, the injections being repeated two weeks later as there was still a tendency to hæmorrhage. Further injections were subsequently given—some into the abdomen—the total amounting to 106 c.c. in a little under ten weeks. The patient left hospital greatly improved in health. A marked leucocytosis followed each injection, and this, by increasing the number of ferment-bearing cells, may be the explanation of the benefit following this form of treatment in hæmophilia. Jochmann has called attention to the increased coagulation brought about by the proteolytic leucocyte ferment. No precipitins for sheep or rabbit serum could be discovered in the child's blood during or after the injection.

T. R. WHIPHAM.

Treatment by sea-water injections (*Journ. Amer. Med. Assoc.*, January 1, 1910).—**Le Boutillier** advocates the subcutaneous injection of sterilised and diluted sea-water in cases of inanition, malnutrition, and chronic indigestion. A dilution of eighty-three parts of sea-water obtained well out at sea, and from a sufficient depth to insure against surface contamination, is made with 190 parts of pure spring water, passed through a Berkefeld filter and put up in sterile bottles. This is isotonic with blood-plasma, and in it leucocytes will live when kept at blood temperature. The dose varies from 10 to 60 c.c. according to the age of the patient and the urgency of the case, and injections are given from three times a week to every day for a short period, the amount being increased until the desired effect is produced. The duration of treatment varies from two or three weeks to four or six months. The injections are unaccompanied by pain or other disturbance, though there may be a slight rise of temperature following the first or second injection and some discomfort at the site of the injection owing to the distension of the tissues by the fluid. Marked improvement in nutrition ensues, the stools are rendered more normal and the appetite increases, while colic is soon allayed. The skin becomes more moist and healthy sleep is induced.

T. R. WHIPHAM.

Coagulation in hæmophilia (*Münch. med. Wochens.*, January 4, 1910).—**Kottmann** and **Lidsky**, after investigations with the coaguloviscosimeter, support the view that in hæmophilia there is a lack of thrombokinase, and that hæmorrhage can be arrested by supplying this from without. Bleeding should be checked at once by tamponing with fresh animal blood or serum. The thrombokinase can be obtained at any time by simply soaking in water chopped and pounded liver obtained fresh from a rabbit or any other animal. After filtration through an ordinary cloth the turbid suspension thus obtained affords a rational styptic, which does not soon lose its efficacy like ready-made fibrin-ferment, but in contact with the blood constantly liberates the ferment afresh. The extract must be made fresh each time.

T. R. WHIPHAM.

Morphine treatment of diphtheritic croup (*La Pediatria*, February, 1910, No. 2, p. 110).—**M. Ponticaccia** gives short notes of twenty-four cases which, in addition to anti-diphtheritic serum, were given injections of a 1 per cent. solution of hydrochlorate of morphine in doses of $\frac{1}{3}$ c.c. for the first year of age, $\frac{1}{2}$ c.c. for the second, $\frac{2}{3}$ c.c. for the third, and 1 c.c. for ages

beyond this. Six were operated on—five intubations and one tracheotomy. In most cases 2 mgrm. of morphine was given once only, in a few 3 mgrm. once. It was never repeated in less than two hours' time, and then only if the first dose had produced no effect and if there was no somnolence. The amount was a minimum of 2 mgrm. and a maximum of 13 mgrm. in divided doses. These amounts were always tolerated well and had an immediate efficacy in the laryngeal spasm, and there was never to be seen any laryngeal condition of considerable gravity which did not improve during the sleep which followed the morphine injection. It seemed that during this sleep, and also during the waking intervals between one sleep and another, if the action of the morphine was maintained, the intensity of the laryngeal stenosis did not increase as it generally does in the majority of cases. It also seemed that if the morphine was injected simultaneously with the serum in a case of croup in which the breathing, although bad, is tolerated and does not call for immediate intervention, there is great probability that it will remain tolerated until the laryngeal trouble is ameliorated by the action of the serum. Many of the cases were exceedingly severe and in which operation seemed unavoidable; when they escaped it seemed that the morphine was helpful in prolonging the tolerance of the stenotic breathing, in giving time for the serum to act, and thus render operation less frequent. Of the twenty-four cases three died, but long after the laryngeal condition was at an end, and of complications such as acute nephritis, pulmonary atelectasis, and glandular tubercle in one case; atelectasis, broncho-pneumonia, and acute nephritis in another; broncho-pneumonia and acute nephritis in a third.

VINCENT DICKINSON.

Otology, Laryngology, and Rhinology.

A little-recognised consequence of adenoid growths (*The Practitioner*, January, 1910).—**Smith** writes drawing attention to the liberal secretion of thick and acrid mucus so common in adenoid cases, and insists upon its importance as a cause of troublesome cough and gastric derangement. The paper is eminently practical, and, although immediate removal of the adenoids is advised, the author points out that further treatment is usually necessary to finally overcome the troubles which this acrid secretion has induced.

MACLEOD YEARSLEY.

The results of the clinical throat examination of 212 school children (*Boston Med. and Surg. Journ.*, February 17, 1910).—**W. P. Coues**, finding 153 children of 212 suffering with large tonsils, discusses causation, and believes that there are three factors predisposing: (1) Poor home surroundings—lack of fresh air and sunlight; (2) improper and insufficient food, and neglect of teeth; (3) unhygienic school conditions. One hundred and three showed markedly carious teeth.

MACLEOD YEARSLEY.

Surgery.

Primary tuberculosis of the patella (*Journ. des Pract.*, November 28, 1909).—**Kirmisson** states that this rare condition occurs in children of from five to eight years of age. There are two forms of the disease: (1) diffuse and infiltrated, (2) limited and cavernous. In the latter there is a cavity filled with tuberculous material, which may open in front or posteriorly; if

anteriorly a tuberculous ulcer is formed, if behind, a tuberculous arthritis. Some surgeons remove the patella, others only the diseased area. The tendinous attachments and cartilaginous parts may be left undisturbed, and regeneration of the bone has been recorded after removal. In bad cases the power of extension is apt to be lost. The patella may ankylose with the femur, so that the movement of the joint is greatly impaired.

T. R. WHIPHAM.

Gastric ulcer in a boy, aged 8 years (*'Boston Med. and Surg. Jour.,'* December 23, 1909).—**Lund** records a case of perforated gastric ulcer, treated by operation and ending in recovery, in a boy, aged 8 years. Ulcer of the stomach is a rare condition in children under fourteen years of age, only sixty-four cases having been recorded, and of these only two were operated upon. The patient had had occasional spells of vomiting since infancy, but no hæmatemesis until a year previously, when there was considerable abdominal pain and the vomit was streaked with blood. Some months later he had another attack, with two ounces of hæmatemesis and melæna for a couple of days. On admission to hospital the temperature was 102° F.; there was slight hæmatemesis and the epigastrium was tender. Laparotomy was performed and a large, indurated ulcer was found on the lesser curvature near the pylorus, which was firmly adherent to the liver. A posterior gastro-enterostomy was done, with an excellent result.

T. R. WHIPHAM.

Atresia of the duodenum (*'Jour. Amer. Med. Assoc.,'* July 3, 1909).—**Freeman** saw a case of complete stenosis of the duodenum at the junction of its upper and middle thirds. On the second day passed no urine, vomited and became jaundiced. On the fifth day the vomiting was frequent, but on the following day, when the patient was first seen, there was no peristalsis. The vomiting became worse, and on the tenth day the child died. Only sixty-two similar cases have been reported.

T. R. WHIPHAM.

Pressure from the thymus (*'Deut. Zeitsch. f. Chir.,'* May, 1909).—**Denecke** saw a boy, aged 5 years, in whom an enlarged thymus caused pressure on the main venous trunks. The supra-clavicular fossa on either side bulged as the child cried, and the veins in the neck swelled to the size of one's finger. There was very little stridor during inspiration. The patient was cured by resection of part of the thymus on either side.

T. R. WHIPHAM.

Treatment of convulsions after orthopædic operations (*'Zentralbl. f. Chir.,'* January 1, 1910).—**Schanz** has observed ten cases in which signs of fat embolism occurred after operation on the bones. The cerebral vessels apparently became occluded by fat from the marrow, and convulsions followed. The first case was fatal, and in the second there was hemiplegia of several weeks' duration. All the others recovered, a result which the author attributes to his routine method of subcutaneous saline infusion. The salt solution is injected at several points in order to dilate and flush out the capillaries involved as promptly and as effectually as possible. The earlier and the more copious the infusion the better is the effect—up to a litre being injected at the first sign of embolism. In very severe cases the writer advocates infusion directly into a vein.

T. R. WHIPHAM.

Long-standing empyema (*Arch. of Pediat.*, xxvii, 1910, p. 26).—**A. Hand, jun.**, records a case in a girl, aged 3 years and 5 months, in whom the empyema had been present for probably twenty-two months. On admission to hospital she was extremely emaciated and weighed only 8 lb. 14 oz. The abdomen was greatly distended in a manner suggesting a tumour or hypertrophic dilatation of the colon. Death occurred one month after rib resection, when about one ounce of green pus containing streptococci was evacuated. The autopsy showed nothing beyond a compressed and fibroid left lung with greatly thickened pleura. Hand adds a note on race as a predisposing factor in the occurrence of empyema. He found that whereas among 1109 cases of pneumonia in white children empyema occurred in 99 cases, or 9 per cent., in 245 cases of pneumonia in coloured children it occurred in only 3 cases, or 1·2 per cent.

J. D. ROLLESTON.

Chronic appendicitis (*Progrès Méd.*, 1910, p. 66).—**A. Schwartz.**—A boy, aged 12 years, had suffered from loss of appetite for several years. When three years old he had had four or five attacks of indigestion, characterised by vomiting. On examination of the abdomen well-marked tenderness was found in both iliac fossæ, especially in the right. The diagnosis of chronic appendicitis being made, Schwartz removed the appendix, which was very long and irregularly thickened. A week after the operation the appetite returned and had been hearty ever since (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1909, p. 131).

J. D. ROLLESTON.

Cerebral hæmorrhage at birth, with operation (*Arch. of Pediat.*, xxvi, 1909, p. 846).—**F. S. Meara and A. S. Taylor.**—A primipara, aged 35 years, after a prolonged instrumental labour gave birth to a child with left facial palsy. The next day the facial palsy was less, but the left arm and leg were rigid and in the evening showed convulsive movements. On the third day the child, who had hitherto had a good colour and pulse, was cyanosed and looked ill. An operation was performed by Taylor, who turned down an osteoplastic flap which comprised most of the right parietal bone, and then a smaller dural flap, exposing the brain covered by blood-clot. Some active bleeding was present. All the clot that could be reached was removed, the brain surface was irrigated, and the fresh hæmorrhage controlled. No improvement occurred, and death took place half an hour after the operation. The autopsy showed that an extension of the clot had passed along the inner end of the left fissure of Sylvius to the base of the brain and back into the posterior fossa, where it covered the pons medulla and cerebellum.

J. D. ROLLESTON.

Large polypoid tumour of the urethra in a female, aged 3 years (*Amer. Journ. of Obstetrics and Diseases of Women and Children*).—**Petit de la Villeon** records in the *Gaz. Hebdomadaire des Sciences Médicales*, October 10, 1909, the occurrence of a large polypus connected with the urethra in a female child, aged 3 years. The child suffered from a profuse urethral discharge and itching prior to the external appearance of the tumour, which, owing to its subsequent rapid enlargement, was clinically considered to be of a sarcomatous nature. The tumour, moist, red and turgescient, was removed and found to be a simple polypus which had been growing from the wall of the urethra.

J. HOWELL EVANS.

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

VOL. VII.

JULY, 1910.

No. 79.

Original Articles.

A CONTRIBUTION TO THE STUDY OF INFANTILE
MORTALITY.*

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Physician to the Manchester School for Mothers.*

ACCORDING to Dr. Newman, to whose book on infant mortality I am greatly indebted for many of the figures quoted in this paper, the general death-rate is declining, but the infant mortality-rate is not doing so, and 120,000, or one quarter of the total deaths in England and Wales, occur under the age of one year.

In 1839-44 infant deaths in London formed 20 per cent. of all deaths, and 30 years later 25 per cent. Practically we can say that out of 100,000 infants born, 17,139 will not live to one year of age, and 25,000 will not live to 5 years. So 120,000 lives are lost annually in England and Wales under the age of one year.

Johnson's figures are that while the death-rate for England and Wales for 1906 was 15·4, the infant death-rate, *i. e.* that in babies under one year, was 132—that is, one in every eight children born in this country in 1906 died before it was one year old.

Whilst the general death-rate is declining the infant death-rate is not doing so, and at the same time the birth-rate is decreasing.

Further, if we examine the ages at which infants die, and split up the first year of life into four periods of three months each, we

* 'The Medical Chronicle,' April, 1910.

find the striking fact that the first trimester is by far the most fatal. Thus in 1904, of 137,882 infants dying, 49 per cent. died in the first trimester, 21 per cent. in the second, and 30 per cent. in the third and fourth periods.

Taking the records of the deaths at the Manchester Children's Hospital Dispensary during the last 30 years, 34·5 per cent. died in the first two trimesters, 50·59 per cent. in the next six trimesters, or 18·86 per two trimesters.

It must be noted here that a great many of the deaths in the first trimester do not come on our records, because they occur before the child is fit to be brought to a dispensary.

This mortality in the first three months is increasing with the progress of our civilisation, and is greatest in our large towns, and especially in districts where there is much employment of women out of the home.

The infant mortality-rate of the second trimester is stationary, however, showing that the tendency is for infants to die earlier and earlier. This is in Newman's opinion due to increased immaturity, and by this he means the birth of a larger number of immature infants, or infants who, from various causes acting on the mother or themselves, are little fitted to live an independent existence under the conditions in which they find themselves.

Another fact that should be noted is that the death-rate amongst illegitimate children is twice, or more than twice, as great as that amongst legitimate children, and that this greater infant mortality in illegitimate children is more marked in urban as compared with rural districts.

DISTRIBUTION.

A study of the distribution of infant mortality shows that this has remained much the same for the last 50 years, and that some parts of the country, including Lancashire, have much higher rates than others. In 1901-5 Wiltshire had a rate of 91 and Lancashire one of 161.

The high rate goes with the densely populated and manufacturing districts, though density alone has not a great effect. In Newman's comparison between three rural counties and three selected towns (1) the characteristics common to both were that the infant mortality was highest during the first day and fell enormously during the second month; (2) the differences between the two were that the aggregate mortality in the towns is twice as high as it is in the

counties, and that the town rates are most in excess of the county rates in the later months of the year. When the greater prevalence of infectious diseases, including epidemic diarrhœa in the towns, is considered, these differences are to some extent, but not altogether, explained. Newman expresses himself as follows: "All diseases of infancy are heavier in towns than in counties; but immaturity is twice as fatal, and epidemic diarrhœa seven times as fatal in the towns."

Therefore, though immaturity does go with urbanisation and is the cause of more deaths in towns than in the country districts, the main effect of density of population on infantile mortality is through the greater effect of epidemic disease and especially epidemic diarrhœa.

CAUSES.

(1) *Ante-Natal Influences.*

In considering ante-natal conditions we must take into account factors acting on the parents' germ-plasm before conception and on the mother and embryo or foetus after conception. Amongst these are *lead*, which may be taken as an abortifacient, and, more important, *alcohol*, which can pass from mother to foetus. It is said that 55·2 per cent. of infants born to drunken mothers died as against 23·9 per cent. of those born to sober mothers (4). Also there is a progressive death-rate in the families of drunken mothers: 6·2 per cent. of first born, 11·2 per cent. of second, 7·6 per cent. of third, 10·8 per cent. of fourth and fifth, and 17·2 of sixth and tenth born.

Prematurity probably occurs in about 20 per cent. of maternity hospital cases (4). It seems that if animals are underfed their litter are born weighing less than normal, though they are not premature, and if this obtains amongst the poor (as seems to be the case from figures quoted later) there is little doubt that many infants start at a low level. We must remember that there is the tendency to return to a mean and not expect that the infants of the weakly and delicate mothers will invariably be small and ill-nourished; still, poverty and its consequences on the health of a child-bearing mother has probably an effect in producing a weakly infant, which, though it might develop under good conditions, is unable to fight against bad conditions.

But the *occupation* of women is one of the most potent causes. By this is meant the industrial occupation which takes them out of

their homes and tries their strength severely during, and after pregnancy. House-work does not seem to have the same influence as working either in a mill or factory or in the fields.

Such work acts partly by direct effect on the mother and partly by the effect on the home and the infant. When there is much occupation of women from home then the death-rate is high, especially as the fact that the mother has to work often means extreme poverty and a good deal of mental worry, as well as the physical stress and insufficient food.

(2) *Post-Natal Influences.*

Under these are classed (a) fatal diseases of infancy, including prematurity and immaturity; (b) domestic and social influences.

(a) *Fatal diseases of infancy, including prematurity and immaturity.*—It has been shown above that 48 per cent. of infant deaths occur in the first trimester, and that the cause of this proportion was that a large number of infants were brought into the world unfit to lead a separate existence in the conditions under which they found themselves. A further study shows first that during the rest of the year of life the infant mortality is chiefly caused by diseases of the lungs and by diarrhoeal diseases, and secondly that though the deaths from other diseases are decreasing the infantile mortality from acute lung disease, prematurity and diarrhoea is not decreasing but actually increasing.

Newman concludes from a study of the Registrar-General's report that (1) while other children's diseases are decreasing, prematurity, acute lung disease, and diarrhoeal disease are increasing. Of course the recent efforts to decrease epidemic diarrhoea are telling their tales, but the point is that urbanisation tends to increase these diseases; (2) that prematurity occurs most often in the first trimester, diarrhoea in the second trimester, and pneumonia in the second half of the year or the last two trimesters; and (3) that the lung disease fatality has increased, but that the diarrhoea and prematurity fatality has increased in much greater proportion, the increase in the amount of diarrhoea being probably due to the increase in artificial feeding.

A study of epidemic diarrhoea leads us to the conclusions (1) that it is chiefly urban, occurring amongst the labouring classes, especially where there is no water-sewage disposal and where there is poor scavenging; (2) that it occurs chiefly in the third quarter of the first year of life, especially when there is a high temperature and a deficient rainfall, which are conditions favouring

the development of noxious influences from the soil; and (3) that it is also dependent to a great extent on unclean milk.

It is quite possible for breast-fed babies to get epidemic diarrhœa, but they are not nearly so liable to it as are artificially fed babies.

The cause is probably a germ developed and multiplied by favourable conditions such as high temperature and deficient rainfall, spread by flies and by slovenliness and dirty methods in the house; and more likely to effect the artificially fed than the breast-fed baby because of the greater possibilities of contamination of the food of the former, and because the artificially fed are often weaker in resisting power.

But urbanisation has a great effect, for in many rural districts the rate is only 5 per 1000, while in some cities it is 30 per 1000.

When we appreciate these points, the figures from the records of the Manchester Children's Hospital Dispensary are of interest. Firstly, it must be noted that prematurity and immaturity are conditions that find inadequate expression in the death records of a Children's Hospital, because large numbers of infants, dying from these causes within the first few days of life, never come to a hospital, and it has already been pointed out that the greatest number of infant deaths occur in the first few days of life. Probably about 30 per cent. of infant deaths are due to prematurity, immaturity, and atrophy.

On examining the records one striking fact is noticed, namely, that although the number of admissions has increased enormously the number of deaths has decreased. This is explained chiefly by the fact that we now draw our patients from a much larger area, and these patients coming from a distance are not very ill, or if they die do not come on our mortality records, and partly because the deaths from epidemic diseases have decreased considerably, the figures being :

	6 months to 2 years.			Under 6 months.		
	'99-'08	'89-'98	'79-'88	'99-'08	'89-'98	'79-'88
Measles	15	79	181	0	12	16
Whooping-cough.	22	79	121	6	28	62

The total figures for the last thirty years are (including whooping-cough and measles) :

	Under $\frac{6}{12}$.	$\frac{6}{12}$ to 2 years.	2-5 years.	5-14 years.	Total.
'08-'99	772 or 38·2%	1007 or 50·2%	152 or 7·6%	57 or 2·9%	1988
'98-'89	599 or 31·5%	996 or 52·4%	238 or 12·4%	67 or 3·5%	1900
'88-'79	768 or 33·3%	1148 or 49·9%	284 or 12·2%	106 or 4·6%	2300

or 34·5 per cent. in first six months and 50·59 per cent. in the next

eighteen months, giving an average of 16·86 per cent. for second, third and fourth semesters.

Excluding whooping-cough and measles, which are variable both in incidence and in our statistics, but still including congenital syphilis and diarrhœa, the figures for the first two years of life are :

	Under six months.	Six months to two years.	Average for 2nd, 3rd, and 4th semesters.	Total.
'08-'99 .	766 or 44·2%	970 or 55·8%	18·6%	1736
'98-'89 .	559 or 40%	838 or 60%	20%	1397
'88-'79 .	690 or 45%	846 or 55%	18·3%	1536

These figures show how the infantile mortality falls in the early months of life, even when prematurity and immaturity are almost entirely excluded, and more so when epidemic diseases are excluded.

It seems from these figures that the deaths from causes exclusive of measles and whooping-cough have increased slightly, and that the deaths from epidemic disease have decreased very much in our records, this being chiefly due to restrictions as to the attendance of such cases at the dispensary latterly. There is a diminution in the number of deaths from pneumonia and bronchitis, due in part to this diminution in epidemic diseases such as whooping-cough or measles, which so often lead to chest diseases.

As it was pointed out by the late Dr. Ashby, we must divide the diseases into the constant and variable causes of infantile mortality.

Constant	{	Pneumonia and bronchitis.	Variable	{	Diarrhœa.
		Chronic enteritis and			Measles.
		atrophy.			Whooping-cough.
		Malnutrition.			

It must be noted that crowding and urbanisation lead to greater facilities for the spread of infectious disease.

When we eliminate the variable conditions we find that several of the points noted above are well illustrated by the figures. Unfortunately, it has only been in the last ten years that any clear distinction has been made in our statistics between epidemic and the other diarrhœal or wasting diseases, but the figures for the last ten years are as follows :

	Under 6 months.	Six months to two years.
Bronchitis and pneumonia . . .	79 . 185	or divided by 3 = 96
Chronic enteritis and malnutrition	384 . 289	or divided by 3 = 62

These figures show how many more children die from wasting disease (apart from epidemic diarrhœa) in the first semester than from bronchitis or pneumonia.

It must be pointed out that epidemic diarrhœa serves as a starting point for many of the cases of chronic wasting disease, but since its effects fall most severely on the later months of the first year, it does not cause so many deaths under six months of age as in the later months. If epidemic diarrhœa is included with the constant factors so that we can take the thirty years, the following figures are obtained :

	Under 6 months.	Six months to 2 years.	Average of 2nd, 3rd, and 4th semesters.
Bronchitis and pneumonia . . .	285 .	623 .	208
Gastro-intestinal and atrophy .	1112 .	1180 .	393

Then we see what a large proportion of the deaths from digestive diseases occur in the first six months as compared with the next three semesters, a fact which does not apply to the respiratory diseases.

Taking the ratio of bronchitis and pneumonia to wasting diseases during the different six month periods :

	Under 6 months.	6 months— 2 years.
For 30 years bronchitis and pneumonia		
were to wasting and diarrhœa* as	1-4 .	1-1·7 (approx.)
For the last	1-7 .	1-2·7
ten years „ { and diarrhœa .	1-4·8 .	1-1·5
„ { excluding diarrhœa	1-3·5 .	1-2
'89—'99 „ „ including diarrhœa .	1-2·2 .	1-1·1
'89—'89 „ „ „ „ .		

These figures seem to show that the wasting diseases cause by far the larger proportion of deaths in the first six months ; and what is more important, that this tendency has steadily increased during the last thirty years.

Before drawing conclusions from these figures, however, we must understand that there has been an increase in epidemic diarrhœa, and that this disease is responsible for much of the wasting diseases

* The hospital reports show the periods of six months, not the trimesters, and until the last ten years very little attempt was made to classify epidemic diarrhœa apart from other diarrhœal conditions.

of infancy, as it is indirectly a cause of death. (As a proof of this we find that the deaths from wasting diseases, apart from those not certified as epidemic diarrhœa, are greater in the summer and autumn.) But it can be seen from the figures that, even when the deaths due to epidemic diarrhœa during the last decade are excluded, there is still the increase in wasting disease; so the increase in epidemic diarrhœa cannot be the only factor in operation. Again, the returns of the deaths from bronchitis and pneumonia have shown a slight but steady decline, probably due to the smaller attendance of whooping-cough and measles, so often the forerunners of respiratory disease.

With all due allowance for these points, and taking into consideration the fact that, instead of increasing, the number of our deaths has decreased, the conclusions to be drawn from these figures are: (1) that epidemic diarrhœa has increased; (2) bronchitis and pneumonia have shown a slight but steady decrease corresponding to the decrease in the number of deaths from measles and whooping-cough; and (3), the most important conclusion, that *more infants are dying of gastro-intestinal disorders, apart from epidemic diarrhœa, than was formerly the case.*

Congenital syphilis is given in the Registrar-General's report of 1905 as causing only 1·30 per cent. of the infant deaths; in Dr. Forsyth's report of the Evelina Children's Hospital as 5·2 per cent.; and our dispensary, 7·2 per cent., 5·5 per cent. of these deaths being under the age of six months.

The number of deaths from congenital syphilis are greatly underestimated even in hospital records, and much more so in records collected by the Registrar-General.

(B) *Domestic and Social Influences.*

Domestic and social surroundings have great influence on the infantile mortality. In 1908 the Crumpsall infantile mortality-rate was 98 as compared with Ancoats Central 216 and City of Manchester 152. Urbanisation means crowding, pollution, and uneven employment; but worse still, it means stress and strain, late hours, small excesses, and overcrowding. Comparing the different classes the proportions dying in infancy are 13·2 in the upper, 14·8 in the comfortable, and 16·9 in the poor and crowded.

Alcohol has a large effect, as the number of female inebriates is increasing,* and as it may be given to babies when they are put

* Report of the Departmental Committee on Physical Deterioration.

out to nurse while the mother works. Drugs are used in the same way, and there is a very large sale for soothing drugs in large industrial towns.

Illegitimate Children.

The statistics concerning illegitimate children are almost startling, the infant death-rate being about twice as great in the illegitimate as in the legitimate, and when the deaths due to congenital syphilis and digestive disorders are taken by themselves this higher death-rate in the illegitimate is increased to more than twice those in legitimate infants. In 1908 in the City of Manchester the proportion of infant deaths under one year per 1000 births was in the illegitimate 314, and in the legitimate 146; in Ancoats it was 513 to 197; in Hulme 303 to 158.

The causes of this are maternal indifference and neglect, separation, social, economic, and disease conditions in the mother; but the fact that the illegitimate infantile mortality is so great shows how domestic and social conditions can act to the detriment of the child apart from disease. There is also a diminution of fertility and fecundity due to some extent to preventative measures and to pathological conditions resulting from these.

The *unemployment of the father* during and after the pregnancy of the mother has a distinct effect, as shown from the following figures from the Manchester School for Mothers. The numbers represent weights in pounds and ounces, and refer in Column 1 to an average of 14 cases:

	Out of work cases.	All cases weight on joining.	Average weight (Newman).
At one month	6·3 $\frac{1}{4}$	7·4	7·8
At three months	9·4 $\frac{3}{4}$	10·10	10·0
At six months	10·3	12·4	14·4
At nine months	12·6 $\frac{1}{4}$	17·4 $\frac{1}{2}$	16·12

Though these figures are taken from small numbers they show that infants whose fathers are out of work tend to be under weight, and the more so as they get older, the causes being either poor nutrition and defective breast-milk of the mother, or the inability of the parents to procure artificial food if that is necessary.

Infant Feeding.

The great part played by faulty feeding in the production of infantile deaths from digestive system diseases is shown by the

figures from the Children's Dispensary, which have been quoted above.

Experience shows over and over again that breast-feeding is by far the best for the infant, and that unless skilled and constant supervision is obtainable a baby should not be taken off breast-feeding unless there are insurmountable difficulties to its continuation. If the breast milk is insufficient it should be supplemented with other food.

The following table illustrates the value of breast-feeding over artificial, and of mixed-feeding over artificial alone. Each weight is the average taken from fourteen cases.

	Breast-fed.	Mixed-fed.	Bottle-fed.
At one month . . .	8·5 $\frac{3}{4}$. . .	7·11 . . .	6·12 . . .
At three months . . .	12 . . .	10·7 . . .	8·3 $\frac{1}{2}$. . .
At six months . . .	14·6 $\frac{1}{2}$. . .	12·14 . . .	10·3 $\frac{1}{2}$. . .
At nine months . . .	16·14 $\frac{1}{2}$. . .	15·6 . . .	14·6 $\frac{1}{2}$. . .

These cases were selected quite at random from cases under my care at present, and they clearly show how important it is for infants to be fed on the breast if possible or on mixed feeding if they are to avoid the wasting diseases.

With regard to diarrhœa experience shows that where 18·3 per cent. of deaths are in breast-fed infants, 34·7 per cent. are in mixed-fed, and 46·8 per cent. in artificially fed babies.

Another illustration of the importance of breast-feeding was found in the Paris siege, where, through the mothers being compelled to stay at home and look after their children, the infants were more healthy and the infantile mortality was lower than before the siege. Just the same thing happened in Lancashire in the time of famine and during the American Civil War.

Artificial feeding exercises a harmful effect in several ways. It imposes a greater strain on the digestive powers. The foods used are often of insufficient nutritive power, many of the patent foods containing too much sugar and very little proteid, or if of sufficient nutritive value, they may become dirty or be wrongly prepared. Children fed in this way are often left to friends, who may be greatly tempted to give them opium or alcohol preparations if they cry much.

The milk supply of our towns leaves much to be desired, and when it is seen that milk is an excellent medium for the growth of bacteria, and that bacteria may be introduced into milk at the farm, or in transit and in the home, it is easy to understand the importance of a good milk supply.

As Dr. Delépine puts it, "an abundant supply of clean, fresh cow's milk is a matter of national importance."

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VINCENT'S ANGINA.

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THE present paper is based on the study of 32 cases of Vincent's angina observed at the Grove Hospital in the course of the last five years. Prior to April, 1905, when I first became familiar with this form of sore throat, I had seen several cases which on retrospective consideration were probably examples of this condition, but which I had not learnt to recognise as such. Many other observers have doubtless had a similar experience.

Definition.—Vincent's angina may be defined as a faucial lesion, usually of unilateral distribution, characterised by deep ulceration of the tonsil and adjacent structures, a peculiar fœtor and enlargement of the corresponding lymph-glands, and ætiologically associated with the symbiosis of two organisms,* a fusiform bacillus and a spirillum, described by Vincent in 1896 as present in hospital gangrene, and again in 1898 in the lesion to which his name has been given.

Frequency.—Compared with other forms of sore throat Vincent's angina is uncommon. During the three years, 1905-1907, before and after which period it does not figure in the returns, 15,140 cases of diphtheria were admitted to the Metropolitan Asylums Board hospitals, as well as another 3047 cases certified as diphtheria, but diagnosed after admission as suffering from other diseases. Only 95 of the latter were diagnosed as Vincent's angina, the frequency of which is therefore 0·5 per cent. in all forms of sore throat and 3·1

* The fusiform bacillus has been isolated in pure culture by several investigators. Mühlens alone has succeeded in cultivating the spirillum. For a full account of the bacteriology of Vincent's angina, A. Meyer's valuable monograph should be consulted. Repaci's paper may also be mentioned (*vide* references).

per cent. in cases of non-diphtheritic angina. These figures probably under-estimate its real frequency, as in 1905 only 3, in 1906, 4, and in 1907, 6 of the ten hospitals admitting acute cases of diphtheria returned the diagnosis of Vincent's angina in their statistics. Its slightly greater frequency at the Grove Hospital supports this view. During the quinquennium, 1905-1909, 3266 cases of diphtheria were admitted to this hospital, and another 610 were certified as diphtheria, but were found after admission to have other diseases, among which were 30 of the 32 cases which form the subject of this paper. The frequency of Vincent's angina at the Grove Hospital during a period of five years was therefore 0·9 per cent. in all cases of sore throat and 4·9 per cent. in non-diphtheritic angina.

Vincent himself found that it occurred in 2·2 per cent. of all cases of angina. It should be noted, however, that his patients, instead of being of all ages and sexes, like those admitted to the Asylums Board hospitals, were exclusively soldiers between the ages of 20 and 25 years. L. Martin, at the Hôpital Pasteur, met with it only in 2 out of 122 cases of non-diphtheritic angina. Marfan found it in 1 per cent. of all cases of angina admitted to the diphtheria block at the Hôpital des Enfants Malades. A. Meyer saw 30 cases in five years in Heymann's throat and ear department at Berlin among 15,000 cases of this speciality.

Age and sex.—The ages and sexes of the 32 patients are shown in the following table :

TABLE I.

Years.	Males.	Females.
0-2	0 .	0
2-3	2 .	1
3-4	3 .	2
4-5	4 .	2
5-6	2 .	4
6-7	0 .	2
7-8	0 .	3
8-9	0 .	0
9-10	2 .	0
10-11	0 .	0
11-12	0 .	1
12-13	0 .	2
14-15	1 .	0
16-17	1 .	0
	<hr/> 15	<hr/> 17

Thus 14 occurred in the first quinquennium, 13 in the second, 4 in the third, and 1 in the fourth. Fifteen were males and 17 females. Illustrative of its occurrence at the extremes of life are Athanasiu's case in a child aged 26 months, and Rudloff's in a man aged 81 years.

As the figures above testify, it is relatively rare in adults. An exception to this rule occurs in the case of soldiers, on whom Vincent's original observations were made, and medical students, among whom cases have recently been reported by Buhlig and Gordon. According to Vincent it shows a predilection for those working in the dissecting room.

Contagiosity.—It is a striking fact, at once illustrative of its rarity among adults and of its feeble contagiousity, that none of the staff at the Grove Hospital contracted the disease during these five years. This is all the more remarkable, as they are very liable to various forms of sore throat. Thus during this period 196 suffered from follicular tonsillitis and 19 from quinsy, and their susceptibility to infection is further shown by the fact that 40 developed scarlet fever and 37 diphtheria during the same period.

Although no instances of contagion have been furnished by the present series many such cases have been observed. The disease has been conveyed by kissing, or by the use of an infected pipe or glass (Vincent). In Royster's case a dentist was infected by his patient, and in cases recorded by Vincent and Costa the reverse occurred. Goldenburg mentions a family epidemic in which the father, mother, and two children were affected. In the parents the disease was slight, but in the children fairly severe. Small epidemics in children's homes have been reported by Cushing. Buhlig describes an outbreak among medical students who had a tobacco pouch in common, the string of which they fastened with their teeth, and Todd states that a pathologist, after examining throats in a lunatic asylum during an epidemic of Vincent's angina, caught the disease himself.

Seasonal incidence.—As is seen from Table II, the disease was commonest in the spring and rarest in the autumn.

Thus 7 occurred in the first quarter, 15 in the second, 4 in the third, and 6 in the fourth.

The experience of other observers is different. Eight of Meyer's 30 cases occurred in September, only 3 between September and March, and 21 between June and October. Reiche, on the other hand, found his cases were most frequent during the warm months.

TABLE II.—*Showing the Months in which the Cases were admitted.*

January	.	.	.	.	.	3 cases.
February	.	.	.	.	.	2 „
March	.	.	.	.	.	2 „
April	.	.	.	.	.	6 „
May	.	.	.	.	.	5 „
June	.	.	.	.	.	4 „
July	.	.	.	.	.	2 „
August	.	.	.	.	.	2 „
September	.	.	.	.	.	0 „
October	.	.	.	.	.	3 „
November	.	.	.	.	.	2 „
December	.	.	.	.	.	1 case.

 32

Previous health.—Some writers, including Vincent himself, have laid special stress on general ill-health and oral sepsis as predisposing causes. Others, such as Baron, Blackwood, Lavagna, and Reiche, with whose experience my own accords, found the disease equally frequent among those previously healthy. Carious teeth were doubtless present in most, if not all of my cases, but not to a greater extent than in other children, nor was the general condition below par. Nine had had no previous illness whatever, and 23 had had one or more of the acute exanthemata.

Clinical picture.—It is customary to distinguish two forms of Vincent's angina, an ulcerative and a membranous or diphtheroid, but in my experience the ulcerative is only a later stage of the diphtheroid. The slough which covers the ulcer may so closely simulate diphtheritic membrane, that even after considerable experience the condition may be regarded as diphtheria and treated accordingly, especially as the characteristic factor is often absent in the early stage. Thus 10 cases in which no diphtheria bacilli were subsequently found were diagnosed as diphtheria on admission, and received doses of antitoxin ranging from 4000 to 16,000 units. In some of these cases the faucial condition seemed to be benefited by serum treatment, probably through stimulation of local leucocytosis. No help in diagnosis can be gained from the history of the onset, the prodromal symptoms being those common to any angina. Thus in 28 there was a history of sore throat, in 11 of headache and vomiting, in 18 of swollen neck-glands, and in 7 of shivering. It is of special interest that nasal discharge, which is so frequent an

initial sign of diphtheria, occurred in 14 cases. In 9 it was present on admission, and in another 5 it had been noticed at the commencement of the disease, but had ceased before admission.

The resemblance to severe diphtheria is sometimes increased by the presence of faucial œdema, which was found in 5 cases. Adenitis, usually confined to one side, may be considerable, but I have never observed in Vincent's angina anything resembling the proconsular neck of toxic diphtheria. In every case the inflammation resolved completely. Suppurative adenitis, as Vincent has pointed out, is unknown.

The fœtor of Vincent's angina, though absolutely characteristic and quite distinct from that of malignant diphtheria, may mislead, those who have had no experience of the former disease. Thus one case in which the odour was very pronounced was brought to hospital by the parents, without waiting for the ambulance, because the certifying practitioner had said that it was a severe case of diphtheria which should be removed to hospital at once.

In the great majority of cases Vincent's angina is a unilateral affection, or, if both sides of the fauces are involved, the lesions are predominant on one side. Thus in 12 cases the right, in 11 the left, and in 9 both sides were affected, but in 5 of the latter the lesions were predominant on the left and in 2 on the right.

In 20 cases the uvula was involved, in 8 cases the right and in 12 the left side being affected. Damage to this organ in the present series was never considerable, and complete regeneration of tissue always occurred. Cases, however, in which the whole uvula has been destroyed have been recorded by Auché and by Niedner. In none of my cases was the larynx attacked, as in those published by Arrowsmith, Bruce, and Reiche. Ulcero-membranous stomatitis, which is also due to the fuso-spirillar symbiosis, was not present in any of my cases, but this co-existence of the two affections, or rather, multiple localisation of the same disease, has been recorded by Niclot and Marotte, Grenet, Widal and Darré, Crandall, and others. In one of Blackwood's cases the specific stomatitis was followed by typical angina. In Crandall's case, on the other hand, the disease was first confined to the throat, but was inoculated into the gums by a dentist while scaling the teeth. A similar case is recorded by Costa. In convalescence from scarlet fever I have met with ulcero-membranous stomatitis in which the characteristic odour suggested the presence of Vincent's organisms, which were found to be very plentiful on bacteriological examination. I have not, however, found them in the ulcerative angina of the acute stage of scarlet

fever, as Simonin, Vedel and Lagriffoul, and Weaver and Tunnicliff have done.

Disproportion between the severity of the local and general symptoms is one of the most striking features of Vincent's angina. In most of my cases the constitutional disturbance was slight and lasted only during the pyrexial period, which, as a rule, was of short duration. In 5 the temperature was normal throughout their stay in hospital, though the local process was still in an acute stage on admission; in 10 it ranged between 99° F. and 100° F.; in only 4 did it rise above 102° F., the highest reading being 103·8° F. In 11 cases the temperature became normal within twenty-four hours of admission, and in only 2 did the pyrexia persist for more than four days after their arrival. Compared with diphtheria, the specific disease which it most closely resembles, Vincent's angina is a protracted affection. Whereas in diphtheria the throat becomes clean a few days after the injection of antitoxin, the healing process in Vincent's angina requires as a rule a much longer time. The average period in the 32 cases was eighteen days, the extreme limits being five days in the mildest, and fifty-nine days in the most severe.

A still more chronic course has been recorded by several writers. In one of Arrowsmith's cases the ulceration lasted over two months and involved the right tonsil, anterior and posterior pillars, epiglottis, and pharynx.

In Bayer's case the process lasted between three and four months, and defied all local treatment. Finally recovery took place under arsenic internally and strengthening diet.

In Pusateri's case, in which the diagnosis of tuberculous ulceration of the tonsils was first made, the disease lasted for over a year. Murray and Todd have also recently recorded cases of chronic ulceration of the tonsils associated with the presence of Vincent's organisms.

Two of my cases had a relapse. One occurred on the ninth day, and was probably due to accidental inoculation during painting of the throat, as the child struggled at the time. The other relapse occurred without obvious cause on the twenty-fourth day. In both cases the right tonsil and right side of the uvula were involved in the relapse, whereas the left tonsil and left side of the uvula had been affected in the initial attack.

As a rule, the fusio-spirillar couple disappears as healing commences. The fusiform bacilli persist longer than the spirilla. In 2 cases in which the organisms were found in great abundance on the fifth and seventh days, smears taken on the 10th and 9th days

respectively were negative. In another case, in which numerous fusiform bacilli and a few spirilla were found on the eighth day, there still some fusiform bacilli, but no spirilla on the twentieth, two days before the throat became clean.

In a mild case, where the disease was confined to the upper part of the left tonsil, numerous fusiform bacilli and spirilla were present on the ninth day, before treatment was started. After the application of methylene-blue powder on two successive days the fusiform bacilli were still numerous, but the spirilla had disappeared. On the fourteenth day, when only very slight opacity of the mucosa marked the site of the original lesion, neither fusiform bacilli nor spirilla could be found.

Association with other diseases.—In 4 cases, in addition to the fuso-spirillar couple found in the smear, organisms morphologically indistinguishable from diphtheria bacilli were present in the cultures. Antitoxin was given, the faucial lesions healed more rapidly than in the uncomplicated cases, and no paralyses resulted. It was at one time thought that the presence of Vincent's angina was enough to exclude diphtheria, but the error of this view soon became manifest. It is true that the co-existence of the two diseases is not common. Meyer points out that the mere presence of Klebs-Loeffler bacilli in the culture does not justify the diagnosis of diphtheria, if the clinical appearances do not correspond, as they have been found in obvious cases of Vincent's angina, without producing any change in the clinical picture. In such cases they were either non-virulent, or if virulent they did not necessarily take any part in the morbid process. Cases, however, similar to the four just mentioned, have been recorded by Blumenthal, Többen, Nieder, and Weaver and Tunnicliff, in which prompt improvement followed the injection of antitoxin. In practice, therefore, it is advisable to treat as diphtheria those cases of Vincent's angina in which organisms resembling diphtheria bacilli are present in the culture.

The association of a comparatively mild local disorder like Vincent's angina with a serious general disease like diphtheria may be compared with the co-existence of soft chancre with syphilis. In these mixed lesions the soft chancre dominates the scene, and the possibility of the more serious infection is ignored until the explosion of secondary symptoms reveals the unwelcome truth.

In one case there was a probable co-existence of inherited syphilis. A girl, aged 4 years, was admitted on May the 17th, 1905, with ulceration of both tonsils, covered with yellow slough. The lesions were predominant on the left side. No diphtheria bacilli were

present in five successive cultures, but smears showed numerous fusiform bacilli and spirilla. In spite of applications of iodine twice daily, the ulceration persisted until July the 7th, when she was given a mixture containing liq. hydrarg. perchlor. and pot. iod. thrice daily. Within a week the ulcers had completely healed.

Apart from the therapeutic result, there was nothing to suggest syphilis in this case beyond some flattening of the bridge of the nose. The value of Wassermann's reaction, which at that time had not been discovered, is obvious in a case of this kind, as Sobernheim has recently shown in dealing with the co-existence of Vincent's angina and latent acquired syphilis.

No other instances of the co-existence of Vincent's angina and inherited syphilis have been recorded, but there have been several cases published of Vincent's angina in all stages of the acquired disease. In Lagriffoul and Bousquet's case typical Vincent's angina shortly preceded the roseola. In the cases of Malherbe, Moutot, and Salomon, symptoms of secondary lues were already present. In Sobernheim's case the *Spirochæta pallida* was associated with Vincent's organisms in the throat lesions.

Sack records a case of the co-existence of Vincent's angina with tertiary syphilis, in which recovery took place under iodide of potassium. It is interesting to note in this connection as illustrative of the action of the fuso-spirillar couple in ulcers situated elsewhere than in the bucco-pharyngeal cavity, that Launois and Laederich found Vincent's organisms in a phagedænic chancre of the penis, together with the *Spirochæta pallida*.

An instructive case is recorded by Balzer and Poisot of the association of Vincent's organisms with Ducrey's bacillus in gangrenous soft chancre. As in Vincent's angina, the general condition did not correspond to the local lesion. The temperature was normal and the pulse 76. That the local malignancy was due rather to Vincent's organisms than to the organism of soft chancre was proved by the considerable improvement which followed the application of methylene-blue. The fuso-spirillar couple completely disappeared in two days, though Ducrey's bacillus still persisted.

Hébert's unique case may also be mentioned here. A man suffering from specific urethritis developed stomatitis of the gums and cheeks, associated with angina, bacteriological examination of which showed gonococci and Vincent's organisms. The case was successfully treated with a gargle and mouth-wash of potassium permanganate.

In only one case of the present series did Vincent's angina arise in convalescence from an acute specific disease. This was in a boy, aged 9 years, on the twenty-sixth day of an ordinary attack of scarlet fever. In all the others the disease was primary. With the exception of this and of another case certified as scarlet fever, all the cases were sent in as diphtheria. In all but three cases, in which it arose after some weeks' stay in hospital, the angina was already present on admission. Of the three exceptions, two were cases certified as bacteriological diphtheria, but in whom no clinical nor bacteriological evidence of diphtheria was found after admission.

The third case was that secondary to scarlet fever already mentioned.

The occurrence of Vincent's angina as a sequel of pertussis has been observed by Barlow, Graupner, and Weaver and Tunnicliff, as a sequel of measles by Weaver and Tunnicliff, and of diphtheria by Graupner.

Complications.—The only complications noted in the thirty-two cases were albuminuria in two cases which lasted two and four days respectively, serum phenomena in seven of the twelve injected with antitoxin, and the following skin eruptions: One case prior to admission presented a scarlatiniform rash, which was the cause of its being certified as scarlet fever. A similar case is recorded by Eisen, who regarded the diagnosis of scarlatina as improbable, on account of the transient character of the eruption, the complete absence of desquamation, and the slight and transient pyrexia.

Herpes labialis occurred in only one case as compared with diphtheria and non-specific tonsillitis, in which, as I have shown elsewhere ('Brit. Journ. Derm.,' 1907, p. 375), it was found with a frequency of 4 per cent. and 13 per cent. respectively.

In one case miliaria of the neck was seen on the fifth day of disease. Joint affections, the occurrence of which in Vincent's angina was recorded by Simonin and Nielot and Marotte, were not observed.

Reiche had two cases which developed palatal and ciliary palsies, loss of knee-jerks and ataxia. No similar observations have been made by others, and in spite of the negative bacteriological examination it is difficult to believe that co-existent diphtheria had not been present.

According to Simonin complications are more frequent after the stomatitis due to Vincent's organisms than after the angina due to the same cause. This he attributes to the powerful leucocytic defence provided by the tonsils. A similar opinion is expressed by

Ivanow, who found such complications as erythema multiforme, joint pains, abscesses, and appendicitis more frequent in the cases accompanied by severe stomatitis and glossitis. Like Simonin he regarded their occurrence as due to secondary infection by streptococci. The absence of serious complications in my own cases may therefore be attributed to the lack of concomitant stomatitis.

Prognosis.—The present series confirms the general rule as to the benignity of Vincent's angina.

About half-a-dozen fatal cases have been recorded. In one of Bruce's cases death was due to toxic absorption from the site of the local lesion, and in another two to suppurative broncho-pneumonia after involvement of the larynx. Pneumonia was also the cause of death in De Carli's case. In Giliberti's case the angina was associated with ulcero-membranous stomatitis, which was followed by osteomyelitis of the lower jaw. In Meyer and Schreyer's case pernicious anæmia was probably a predisposing cause of infection by Vincent's organisms, and explained the fatal issue. In Royer's case, which occurred in a pregnant woman, death took place a few days after delivery. In addition to ulcero-membranous stomatitis, pulmonary tuberculosis and gangrene, nephritis and endometritis were also present.

Most of these cases, however, as Meyer has pointed out, should be rather regarded as gangrene of the pharynx than as Vincent's angina.

Treatment.—In most cases it is sufficient to swab the affected part morning and evening with undiluted tincture of iodine, as Vincent himself recommends. If the fætor is excessively penetrating, the throat may be syringed with a solution of potassium chlorate and myrrh. In one case where the ulceration advanced in spite of these measures, the application on two successive days of powdered methylene-blue to the ulcers was followed by rapid healing. Both in this and in another case where this treatment was adopted from the first, the urine passed within three hours of the application was light blue, but rapidly resumed its normal colour when the methylene-blue was discontinued. No internal medication was found to be necessary in any case.

SUMMARY.

(1) Vincent's angina is an uncommon disease, occurring in 0·9 per cent. of all cases of sore throat, and in 4·9 per cent. of cases of non-diphtheritic angina.

(2) During a five years' period of observation in a hospital

population of all ages, the affection was confined to children between two and sixteen years.

(3) No instances of contagion were observed.

(4) Its incidence was greatest in the spring, least in the autumn.

(5) It was not found to show any predilection for weakly children or for cases of oral sepsis.

(6) There is nothing characteristic in its prodromal symptoms.

(7) There are not two distinct varieties of Vincent's angina. The ulcerative is merely a later stage of the membranous form.

(8) Constitutional symptoms are slight or absent, but the local affection is more pronounced than in diphtheria.

(9) Association with other diseases is uncommon.

(10) The prognosis is favourable. Complications are infrequent and usually insignificant.

(11) Treatment consists in the local application of tincture of iodine or methylene-blue powder. Internal medication is usually unnecessary.

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OBSERVATIONS ON THE BRUITS HEARD OVER THE
MANUBRIUM STERNI IN CHILDREN.

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THE objects of this paper are (1) to point out that bruits are very frequently heard upon auscultation over the upper part of the sternum in children when the head is bent back so that the face is horizontal, and (2) to endeavour to show how these bruits are produced.

For many years it has been my custom to auscultate over the upper part of the sternum in nearly all the children examined, and to do so with the neck extended by telling the patients to look up at the ceiling, and I was surprised to find how very frequently what appeared to be a venous hum could be heard in this situation. Having found this bruit in a large number of children, and having come to a conclusion as to its cause, the next 500 children were very carefully examined, in order to record each case in which it was present, and to see if it were possible to confirm my opinion of the condition producing this phenomena. This paper, therefore, is the result of the examination of a consecutive number of 500 children, the only cases that were excluded being those suffering from cardiac disease. The cases examined were taken from the out-patient departments of the General and Children's Hospitals, Birmingham, and ranged from six months to twelve years of age. To my great surprise, of the 500 children examined this bruit was distinctly heard in sixty-five, when the neck was extended as described above, and in many instances the presence of the bruit was confirmed by other observers. This is 13 per cent., or 1 in 7·7. The bruit was not always immediately heard when the head was bent back, but became obvious after a short period, rarely longer than half a minute. It was exactly like the venous hum which is heard in the necks of girls suffering from chlorosis, but was usually not so long, and rarely continuous. It always disappeared when the head was raised to the erect position.

It has been thought that this bruit is caused by pressure on the left innominate vein by enlarged mediastinal glands, and I quote the words of Dr. Eustace Smith, who first described the bruit, and after whom it has been named: "If the child be made to bend back the head, so that his face becomes almost horizontal, and the eyes look straight upwards at the ceiling above him, a venous hum, varying

in intensity according to the size and position of the diseased glands, is heard with the stethoscope placed upon the upper bone of the sternum. As the chin is now slowly depressed, the hum becomes less loudly audible, and ceases shortly before the head reaches its ordinary position. The explanation of the phenomenon appears to be that the bending back of the head tilts forward the lower end of the trachea, which carries with it the glands lying in its bifurcation, and the left innominate vein, as it passes behind the first bone of the sternum, is compressed between the enlarged glands and the bone. In cases where this sign has been noticed there has often been some slight dulness over the manubrium, leading one to suspect the existence of enlargement of the glands; and the occurrence of the hum thus produced the writer always considers to be evidence confirmatory of the suspicion.”*

While granting that a venous hum may result from the compression exerted by enlarged glands in the manner above described, the author is unable to bring himself to believe that this was the cause in the large percentage of cases in which he observed the bruit. There is no doubt that enlarged mediastinal glands can cause a similar bruit, and reference may be made here to two cases illustrating this, which were shown by Dr. Leonard Guthrie and Dr. Langmead before the Society for the Study of Disease in Children.† In each of these cases there were other physical signs pointing to the presence of a mediastinal tumour. Very careful examination was made to detect the presence of enlarged glands in all the cases in which this bruit was heard, and in none of them could any definite evidence of them be found. Percussion over the sternum did not demonstrate any dulness and no other signs of pressure were obtained, such as dilated veins in the chest-walls or fulness of the veins of the neck. There were no indications of pressure on a bronchus. The great number of cases, therefore, in which the bruit was heard seemed in itself to exclude the enlargement of mediastinal glands being the cause, and indicated that the bruit is of no importance apart from other physical signs.

The next step was to ascertain the cause of this so frequently occurring bruit, and in attempting to do this I began by seeing if the bruit was conducted in any definite direction. I then found out that it could be heard over the internal jugular veins in the neck, either on both sides, or only on one side. Further examina-

* ‘The Wasting Diseases of Children,’ by Eustace Smith. Sixth edition, 1899, p. 315.

† ‘Reports of The Society for the Study of Disease in Children,’ vol. viii, p. 327.

tion of the cases proved that whenever the bruit was heard over the sternum it could always be heard in the neck on one side or the other. At first it appeared as though the bruit was conducted upwards into these veins, but it soon became evident that the bruit over the jugular veins was louder than that over the sternum.

It was found that the best situation to auscultate over the internal jugular vein in a young child is about one inch above the sterno-clavicular articulation, over the anterior border of the sternomastoid muscle. Care must be taken in order not to produce a bruit by undue pressure with the stethoscope. On account of the unevenness of the surface between the positions where the bruits are heard in the neck and over the sternum, it is impossible as a rule, with the ordinary chest-piece, to follow the bruits with the stethoscope the whole way. Auscultation, therefore, is performed over the neck and then over the sternum and the loudness of the two bruits compared.

The following cases are all those out of the 500 children examined in whom a bruit was heard over the upper part of the sternum at the level of the first intercostal space when the head was bent back so that the face was horizontal. In the first 17 cases the side on which the bruit over the internal jugular vein was heard the more intensely was not recorded, but in all the cases except Case 132 the bruit was louder over the veins in the neck than over the sternum.

No. of case.	Sex.	Age.	Disease.	Where loudest heard.	Evidence of enlarged glands.	Remarks.
8	M.	7 6	Bronchitis	Over jugulars	No	Bruit appeared as soon as chin was raised, and then gradually disappeared over the sternum, but remained in the neck.
9	M.	8 10	Slight cough	"	"	No abnormal physical signs in chest.
13	M.	6 9	Diarrhoea	"	"	—
24	F.	6 0	Debility	"	"	No suggestion of tuberculosis.
32	M.	6 0	"	"	"	Very anæmic.
36	M.	5 2	Seborrhæic eczema	"	"	Quite well.
58	M.	4 0	Rickets	"	"	No cough; legs very bowed.
62	F.	8 5	Bronchial catarrh	"	"	Cough since infancy, bruit disappeared after a little time.
70	M.	6 6	Bronchitis	"	"	Cough since infancy.
71	M.	9 10	Subacute nephritis	"	"	No cough.
75	F.	11 6	Debility	"	"	No cough, very anæmic.
77	M.	6 0	Bronchial catarrh	"	"	Cough since infancy.

No. of case.	Sex.	Age.	Disease.	Where loudest heard.	Evidence of enlarged glands.	Remarks.
96	M.	4 8	Debility	Over jugulars	No	No cough.
110	F.	6 1	"	"	"	No cough, functional bruit at cardiac apex.
111	F.	4 0	Pertussis	"	"	Bruit altered slightly with respiration, increasing in intensity during inspiration.
114	F.	4 8	Adenoids	"	"	No cough.
117	M.	4 1	Debility	"	"	"
132	M.	7 6	"	Over sternum	"	Bruit conducted into left side of neck.
147	M.	5 4	Bronchitis	Over jugulars	"	Bruit also heard in each subclavicular region.
154	M.	4 1	Debility	Right jugular	"	No cough.
160	F.	3 10	Anæmia	Both jugulars	"	"
166	F.	8 2	Debility	Right jugular	"	Loudest in neck and over right sterno-clavicular junction.
168	F.	5 2	"	Both jugulars	"	No cough.
170	F.	3 6	Bronchitis	"	"	—
173	F.	5 0	Follicular tonsillitis	"	"	No cough.
184	F.	6 0	Chorea	"	"	"
186	M.	5 0	Debility	"	"	"
189	M.	8 0	"	"	"	"
191	F.	6 0	Bronchitis	"	"	—
196	M.	3 6	"	"	"	"
197	M.	6 9	Debility	Left jugular	"	Also audible over right jugular, no cough.
201	F.	2 6	Bronchitis	Both jugulars	"	—
209	M.	6 4	Bronchial catarrh	"	"	Bruit over sternum varied in intensity with respiration, increasing during inspiration.
233	M.	5 0	Bronchitis	"	"	—
234	M.	9 0	Debility	"	"	No cough.
235	M.	4 8	"	Right jugular	"	Also audible over left jugular, no cough.
244	F.	3 0	"	Both jugulars	"	No cough.
253	F.	5 6	"	Right jugular	"	"
254	M.	3 8	Bronchitis	Both jugulars	"	—
258	M.	2 0	Debility	"	"	No cough.
260	F.	5 6	"	"	"	"
280	F.	6 0	Bronchitis	Left jugular	"	Also audible over right jugular.
286	M.	5 0	Seborrhœic eczema	Both jugulars	"	Otherwise apparently healthy.
297	M.	8 8	Adenoids and tonsils	"	"	No cough.
307	M.	5 1	Debility	"	"	"
309	F.	6 5	Bronchitis	Left jugular	"	Not audible on right side.
320	M.	7 0	"	Both jugulars	"	No cough.
325	F.	7 0	"	"	"	—
328	M.	5 3	Bronchial catarrh	"	"	—
338	M.	5 10	Debility	Left jugular	"	Audible over right jugular, no cough.

No. of case.	Sex.	Age.	Disease.	Where loudest heard.	Evidence of enlarged glands.	Remarks.
351	M.	5 6	Debility	Left jugular	No	Not audible over right side, no cough.
367	F.	4 6	Subacute rheumatism	Both jugulars	"	No cough.
405	M.	5 6	Debility	Left jugular	"	Audible over right jugular.
406	F.	2 10	Bronchitis	"	"	" " "
415	M.	3 2	Debility	Both jugulars	"	No cough.
435	F.	4 11	Catarrhal jaundice	"	"	"
448	F.	5 10	Debility	Left jugular	"	Not audible on right side.
450	F.	2 4	Catarrhal jaundice	Right jugular	"	Audible on left side, no cough.
464	F.	7 6	Debility	Both jugulars	"	No cough.
465	F.	7 4	Follicular tonsillitis	"	"	Slight cough.
475	F.	5 6	Debility	Left jugular	"	Audible over right jugular.
479	M.	6 0	"	Both jugulars	"	No cough.
483	M.	5 1	Enuresis	"	"	"
486	M.	5 10	Debility	Left " jugular	"	Audible over right jugular, no cough.
497	F.	9 1	Enteritis	Both jugulars	"	No cough.

Of the sixty-five cases, eighteen were suffering from some affection of the bronchi, twenty-eight were in a debilitated condition, in which no evidence of disease could be found, and of the remaining nineteen some definite malady was diagnosed which could not be connected with any disease in the chest.

The age of the youngest child was $2\frac{1}{2}$ years and the oldest $11\frac{1}{2}$ years. Only children up to twelve years of age were examined for this bruit, and the commonest age to find it was from four to nine years. The table on the following page shows the number of the children and their ages.

In all the cases except one the bruit in the neck was louder than that over the sternum. In ten cases, in which the bruit could be heard over each side of the neck and over the sternum, it was loudest over the left internal jugular vein. In five other cases it was loudest over the right internal jugular vein. In three cases the bruit was louder over the left side of the neck than over the sternum, but was not audible over the right side of the neck.

Case 132 was the only one in which the bruit over the sternum was louder than that in the neck.

It does not necessarily follow that because a bruit is heard louder over the neck than over the sternum, it has its origin in the former position. There are many instances in the auscultation of the heart

Age.	Number examined.			Number in which the bruit was present.			Percentage having bruit.
	Male.	Female.	Total.	Male.	Female.	Total.	
Under 1	4	2	6	—	—	—	—
1-2	21	21	42	—	—	—	—
2-3	35	33	68	1	3	4	6.2
3-4	27	36	63	3	3	6	9.5
4-5	26	28	54	5	4	9	16.6
5-6	39	31	70	12	7	19	27.1
6-7	27	24	51	7	6	13	25.5
7-8	23	20	43	2	3	5	11.6
8-9	17	17	34	3	2	5	14.7
9-10	8	12	20	2	1	3	15.0
10-11	7	13	20	—	0	0	—
11-12	8	21	29	—	1	1	3.4
Total	242	258	500	35	30	65	13.0

in which a bruit is heard louder over a different portion of the chest-wall to that which immediately overlies the place where it is produced. If this bruit arose in the left innominate vein, the site of its production would be a little further from the external surface than if it were produced in the internal jugular vein. On the other hand, it might be contended that the sternum was a good conductor of sound, and consequently a bruit arising in the chest would be heard louder over the sternum than a similar bruit of the same intensity arising in the jugular vein would be heard in the neck. Not much reliance, therefore, can be placed upon the position of maximum intensity of the bruit as indicating the site of its production, but further considerations of the bruit help in deciding its point of origin. Thus it was found—(1) that in all cases in which a bruit could be heard over the sternum it was always audible in the neck, and (2) that a bruit was often heard in the neck when the head was bent back without it being audible over the sternum. The only conclusions that can be arrived at from these two facts are that in many children a bruit is produced in the internal jugular vein by the head being bent back, and that it depends upon the loudness of the sound whether it can be heard over the sternum.

A further point was ascertained which seemed to throw some light upon the causation of these bruits, and that was that the side of the neck over which the bruit was heard more intensely could be altered by getting the patient to turn the chin to one or other side. It was found that the bruit in the neck became louder when

the chin was turned to the opposite side, so as to put the jugular vein even more on the stretch. It was also found that the increased loudness of the bruit in the neck brought about by this change in position caused also an augmentation of the bruit over the sternum, and that sometimes when the venous hum could not be heard over the sternum with the head bent back and the chin in the middle line, it became audible over the sternum when the chin was turned to one side, thereby increasing the intensity of the bruit in the jugular vein, and giving it a better chance of being conducted downwards to the anterior wall of the chest.

From these observations it would appear that the venous hum is produced in the internal jugular vein, and that it is conducted to the upper part of the sternum. It is far more likely for the bruit to be conducted in the direction of the blood-stream than that it should travel in the opposite direction. If the bruit, which is heard over the sternum, be produced by enlarged glands pressing the left innominate vein up against the sternum, as Dr. Eustace Smith supposes, any conduction of the bruit backwards along the vein would be expected to show itself over the left internal jugular or left subclavian vein—that is to say, the bruit would be conducted upwards and to the left. This does not agree with my observation, for very frequently the bruit was audible on both sides of the neck, and sometimes only on the right side; so it is difficult to conceive that if the bruit were produced in the left innominate vein it could be conducted not only backwards to the left, but also along the left innominate vein to the right innominate vein, and then upwards into the right side of the neck. It seems, therefore, most probable that the bruit arises in one or both internal jugular veins and is conducted downwards to the sternum.

Granting that the bruits arise in the internal jugular veins it is easy to understand how they are produced. Bending the head backwards puts these veins on the stretch, and causes them to be compressed against the transverse processes of the lower cervical vertebrae. The sterno-mastoid muscle also compresses them, for it becomes very tense when the head is thrown back in the position required for the examination. The sterno-hyoid, sterno-thyroid, omo-hyoid muscles, and even the platysma may help in this compression. The stretching of the vein and its compression must diminish the size of its lumen over a certain portion, and therefore a condition is produced in the vein which is likely to give rise to a bruit. That the bruit is produced in this way is also supported by the fact that when the chin is directed to one side a bruit often appears over the

side which is on the stretch. A bruit can often be made to appear in this way when previously it did not exist with the chin in the middle line.

The venous hum over the sternum in children with the head thrown back appears, from these observations, to be a normal condition in the great majority of cases, and should be considered to be of no importance unless accompanied by physical signs of compression.

The Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Provincial Meeting at Portsmouth, Saturday, June the 11th, 1910.

Dr. CAUTLEY *in the Chair.*

A Case of Multilocular Cystic Hygroma of Neck.—Mr. CHARLES P. CHILDE showed a child, aged 4 years, in whom a small soft swelling had been noticed in the angle between the left clavicle and the anterior border of the trapezius two weeks after birth. This had grown progressively. A fortnight ago the portion beneath the lower jaw had become painful and tender, with a rise of temperature to 100° F. This subsided in a week, leaving this portion of the swelling hard.

The case was discussed by Mr. DOUGLAS DREW, who advised removal of the cysts at one operation.

A Case of Subperiosteal Resection of the Shaft of the Ulna for Tuberculous Osteomyelitis.—Mr. CHARLES P. CHILDE showed a child, aged 7 years, with four and a half months' history of pain over the upper end of the right ulna. A swelling appeared later, which was opened. A skiagram exhibited the tuberculous deposit in the ulna. Complete subperiosteal excision of the shaft of the ulna was performed, the bone being sawn through above, below the coronoid process, and wrenched off the lower epiphysis. The case had progressed satisfactorily, and the new ulna, formed from the periosteum, could be distinctly traced on the screen.

In discussing the case, Mr. H. LETT mentioned a similar case in which he had used a prop very successfully to support the bones after resection.

A Case of Partial Tarsectomy for Tuberculous Disease.—Mr. CHARLES P. CHILDE showed a child, aged 5 years, in whom a swelling appeared over the dorsum of the right foot when aged two. This opened and discharged till the time of the operation in October, 1908. Incisions on each side of the foot were made and reflection of the tendons performed. A large portion of the mid-tarsus, including the disease, was removed with the saw. The child had a very useful foot.

A Case of Pseudo-hypertrophic Muscular Paralysis.—Mr. W. CARLING showed the patient, a boy, aged $8\frac{1}{2}$ years.

A Case of Absence of Puncta Lachrymalia (Bilateral).—Dr. L. COLE-BAKER showed a child, aged 10 years, suffering from epiphora since birth. An attempt was made to pick up the opening in the canaliculus in left lower lid without success. Both glands were removed through the conjunctiva at outer angle of upper lid.

A Specimen of Large-celled Sarcoma of the Brain was shown by Dr. JOHN T. LEON. A boy, aged 16 years, was brought up for deafness. No deficiency in the auditory apparatus was found, but very slow cerebration. There was no paralysis or other motor symptoms, except tremors of hands and nystagmus. Double optic neuritis was present.

Specimens of Peritoneal Growths from a Case of Lympho-cythæmia were shown by Dr. JOHN T. LEON. The specimens were taken from a girl, aged $6\frac{1}{2}$ years, who was admitted to hospital on May the 28th, 1908, for intense anæmia, enlarged spleen and liver. Blood-count on admission: reds, 560,000; white cells, 17,500. Post-mortem: Lymphoid growths were present in practically every organ. The liver weighed $30\frac{1}{2}$ oz., the kidneys 11 oz. and 9 oz., and the spleen $5\frac{1}{2}$ oz., all these organs being the seat of numerous growths.

The case was discussed by Dr. SPRIGGS.

A Specimen of Intussusception of the Small Intestine, containing a Sarcoma of Intestinal Wall; Enterectomy; Recovery.—Mr. C. S. RIDOUT showed the specimen, which was taken from a boy, aged 4 years, who had suffered from severe attacks of pain and vomiting. A mass could at times be felt in the abdomen. Operation: A congested enteric intussusception was found, quite irreducible. The whole of the intussusception was resected, and an end-to-end anastomosis rapidly performed by suture. The patient recovered. Examination showed that the cause of the irreducibility was a puckered, indurated growth of the intestinal wall. Microscopically the growth was a round-celled sarcoma. Patient died some months later with secondary deposits in the liver.

A Case of Extensive Injury to the Head in a Boy, aged 7 years, was shown by Mr. C. S. RIDOUT. As a result of an injury a large part of the skull in the Rolandic area had been removed. There was pulsation of the scalp; athetosis of the right hand was present. The mental power was good.

The case was discussed by Dr. SPRIGGS and Mr. DOUGLAS DREW.

A Case of Ectopia Vesicæ.—Mr. CHILDE showed a child, aged 3 years, on whom he had operated for ectopia vesicæ by implantation of the ureters into the rectum.

Mr. DREW, Mr. MUMMERY, Mr. MORGAN, of Brighton, Dr. SPRIGGS, and Mr. FITZWILLIAMS discussed the case.

A Case of Mental Disturbance after Enteric Fever.—Dr. J. T. LEON showed a child, aged 11 years, who had suffered from mental disturbance after enteric fever.

The case was discussed by Dr. BATTEN.

A Case of Pemphigus.—Dr. C. CLAREMONT showed a case of pemphigus in a child.

The case was discussed by the CHAIRMAN and Dr. PERNET.

Two Cases of Mesenteric Cyst were shown by Mr. H. BURROWS.

The Treatment of Intussusception.—Mr. CHILDE opened a discussion on the treatment of intussusception in children. He outlined the diagnosis and laid emphasis on the importance of the presence of a tumour in the abdomen as a sign. He pointed out that this sign was practically always present, and that the only condition under which it was not found was when the condition had been present for some days and there was distension. In considering the treatment he pointed out that operation offered the only certain chance. Resection had given such bad results as to be hardly worth performing. He said that, while the results of reduction were good if performed within forty-eight hours of the onset, the results were hopeless after this time.

The discussion was continued by The CHAIRMAN, Mr. DOUGLAS DREW, Mr. FITZWILLIAMS, Mr. RIDOUT, Mr. MORGAN, Dr. SPRIGGS, Mr. LOCKHART MUMMERY, Mr. BURROWS, Mr. LETT, Dr. PERNET, and Drs. MIDLETON and MAYBRICK.

Mr. CHILDE replied.

A Case of Idiopathic Dilatation of the Colon.—Dr. CLAREMONT read the notes of a case of idiopathic dilatation of the colon.

The case was discussed by the CHAIRMAN, Mr. LOCKHART MUMMERY, Mr. DREW, and Mr. CHILDE.

Philadelphia Pediatric Society.

MEETING, May the 10th, 1910, J. TORRANCE RUGH, Vice-President, Chairman.

Anæmia with Greatly Enlarged Spleen.—Dr. ARTHUR NEWLIN showed two children with greatly enlarged spleens. The first was a boy, aged $2\frac{1}{2}$ years, in whom anæmia was noted after two suppurating swellings had appeared on the knee and one on the cheek, which healed without trouble. The parents are Russian Jews, both well, as was the child previously. The spleen extended from the eighth rib to two inches below the crest of the ilium, and over to the mid-abdominal line. Hæmoglobin was 25 per cent, erythrocytes 1,810,000, and leucocytes 18,400. Differential count gave 12.2 per cent. polymorphonuclears, 81.4 per cent. lymphocytes, 2.4 per cent. large mononuclears, 1.8 per cent. eosinophiles, and 2.2 per cent. myelocytes. One round worm was passed, though no ova or parasites could be found in the stools. The second case was an Italian girl, aged 3 years. Her spleen reached the mid-abdominal line, and the symphysis pubis, occupying the entire left side of the abdomen. Hæmoglobin was 30 per cent., erythrocytes 1,700,000, and leucocytes 71,800. Differential count

gave 42·8 per cent. polymorphonuclears, 20·8 per cent. lymphocytes, 4 per cent. large mononuclears, and 28 per cent. myelocytes. The child began to improve without treatment, and in ten months after first having been observed gave a normal percentage of the various sorts of leucocytes.

Dr. ALFRED HAND, jun., showed two boys with anæmia and enlarged spleen, the elder being an instance of so-called splenic anæmia, the younger having a history of malaria, showing tremendous enlargement of the spleen. The elder, aged $3\frac{1}{2}$ years, was admitted with broncho-pneumonia, having been ill two weeks; the lungs cleared up quickly, but enlargement of the spleen, 8 cm. below the costal border, persisted. On admission, March the 26th, examination of the blood gave hæmoglobin 35 per cent., erythrocytes 3,350,000, and leucocytes 5680. Differential count showed 3·3 per cent. myelocytes, 41·6 per cent. lymphocytes, 46·6 per cent. polynuclears, and 8·2 per cent. large mononuclears. On May the 10th hæmoglobin was 80 per cent., erythrocytes 4,200,000, and leucocytes 7100. The treatment was an organic iron preparation by mouth, but as improvement was slow, hypodermics were also given daily for several weeks of citrate of iron $\frac{3}{4}$ gr., sodium glycerophosphate $1\frac{1}{2}$ gr., and sodium cacodylate $\frac{3}{4}$ gr. The second boy, aged 20 months, was born in New Jersey, and had chills and fever eight months ago, the plasmodium being found in the blood. It was also found on admission to the Children's Hospital five weeks ago, with a profound anæmia, 35 per cent. hæmoglobin and 3,000,000 erythrocytes, and now shows 50 per cent. hæmoglobin, and 3,500,000 erythrocytes. The spleen could not well be any larger in this patient, extending, as it does, into the right iliac fossa.

Dr. A. A. ESHNER spoke of the first of those cases, which he had at first thought might be a case of pseudo-leukæmic anæmia of infants. Later, after examination of the blood, it appeared to be one of leukæmia. He remembered that a round worm was passed while the child was in the Polyclinic Hospital. The swellings on the lower extremity and the face might have been extravasations of blood, with secondary suppuration, or perhaps leukæmic accumulations.

Dr. S. McC. HAMILL said that Dr. J. M. Swan had studied the stools in this case, but had never found any ova. An X-ray showed enlarged bronchial glands in this patient, who still has a high temperature, as she has had all along. A blood-culture was negative.

Dr. THEODORE LE BOUTILLIER had had a case of supposed leukæmia in a child with a history of chronic malaria, in whose blood plasmodia were found, which explained the large spleen, reaching from the margin of the ribs to the crest of the ilium and to the median line. This child very recently had a return of the malaria, but without any great enlargement of the spleen. The child's condition has greatly improved.

Dr. GITTINGS said that Dr. Newlin's second patient exhibited the sudden transformation from a negative count to a well-marked myelocytosis, which is sometimes observed. One must not be thrown off guard by these remissions, in view of the fatal tendency which most of these cases sooner or later exhibit.

Dr. NEWLIN added that a von Pirquet tuberculin test was applied in the first case, which was suggestive, but not absolutely positive. In the second case a Moro test was positive. No tuberculous pulmonary lesions were discovered. The improvement in the second case was entirely independent of treatment, as the child was brought to the hospital at rare and irregular intervals, and received medication in the form of the syrup of the iodide of iron only spasmodically. This case is evidently one of spleno-

myelogenous leukaemia, and is at present in the stage of remission. The first case, from the blood-counts, might possibly be one of lymphatic leukaemia.

Spasmus Nutans.—Dr. HOWARD K. HILL reviewed the literature upon spasmus nutans, or head-nodding with nystagmus in infants, beginning with reports by Ebert and Faber in 1850, and Henoch and Bomberg in 1851, and especially the later papers by Hadden in 1890, Randnitz in 1897, J. Thomson in 1900, and Still. He showed three cases, from his service in the Children's Medical Dispensary of the Presbyterian Hospital, all of which presented signs of rickets. They began to show symptoms when respectively two and a half, ten, and twelve months of age. In all three symptoms began in the dark months of the year; two had lived in poorly lighted, dark rooms. In all three there was a nervous history and in one a distinct retrograde neurotic inheritance. There was no history in any case of a head injury. Two of the children held their heads in the position peculiar to this disorder and looked out of the corner of their eyes. The nystagmus seemed to outlive the head-nodding in two of the cases, in which the latter has almost disappeared.

Dr. HAMILL said that he had reported three such cases with Dr. Posey. The condition was found in children with rickets and after prolonged diarrhoea. Strabismus is not uncommon as a cause of nystagmus, and with these cases nodding or rotary spasm is often found.

The Infant's Thorax: Demonstration of Frozen Sections.—Drs. GEORGE FETTEROLF (by invitation) and J. CLAXTON GITTINGS read a paper and exhibited sections of frozen cadavers, illustrating some anatomic features of the infant's thorax and their practical application in physical diagnosis. They emphasise the fact that the mere opening of the thorax and abdomen in the anatomical laboratory or at autopsy will of itself cause a change in the shape and relation of the various organs. When conditions are still further disturbed by dissection or by successive stages of an autopsy, it is possible only to get an approximate idea of the conditions as they existed during life. A study of the sections corrected several anatomical misconceptions and explained the mechanism of certain clinical phenomena.

Dr. HAND said that this demonstration had been to him the most interesting that he had ever heard or seen at this Society. A formal vote of thanks was then extended to Drs. Fetterolf and Gittings for their excellent anatomical demonstration.

Provincial Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

May the 25th, 1910.

Dr. BYROM BRAMWELL, President, in the chair.

A Case of Diabetes Mellitus.—Dr. R. W. PHILIP showed a young girl suffering from diabetes mellitus, in whom the "massive saline" treatment

lately introduced in Paris had been adopted. For four periods, each not exceeding three days, and extending over six weeks, the patient drank nightly a bottle of "Hunyadi Janos" water, the diet during the period being limited to one pint of milk daily, well diluted. There was no excessive purgation. The sugar dropped immediately almost to zero, and sometimes actually to it, and then rose to a point much below the original standard. Symptoms of acidosis present before, acetone and diacetic acid in the urine, had entirely disappeared, and the patient had gained a stone in weight.

A Case after Nephrectomy for a Large Sarcoma.—Mr. D. WALLACE showed a child after nephrectomy for a large sarcoma, which had probably arisen in the suprarenal capsule.

A Case of Acute Osteomyelitis of the Spine.—Dr. A. MILES showed a boy, aged 10 years, suffering from acute osteomyelitis of the spine.

A Case of Chronic Osteomyelitis of the Femur.—Mr. G. L. CHIENE showed a man, aged 52 years, suffering from chronic osteomyelitis of the femur, which had commenced when the patient was about twelve years of age. Sinuses had opened intermittently ever since.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

May the 6th, 1910.

Dr. NEVILLE WOOD, President, in the chair.

Paper on Scarlet Fever.—Dr. F. G. CROOKSHANK insisted on the importance of recognising clinically the mixed infections and of differentiating between cases of pure scarlet fever of all grades of severity on the one hand, and, on the other, those associated with streptococcal, diphtherial, and rheumatic infections. Cases of so-called scarlatinal rheumatism were usually truly rheumatic in nature, and it was advantageous to treat all cases of scarlet fever with salicylate or salol in full doses from the first. This plan has been adopted at the Mortlake Isolation Hospital for several years with excellent results. Medical asepsis should be adopted in dealing with scarlet fever whether in private or hospital practice; it would do away with cross-infections, sub-infections, and "complications" due to secondary septic infection of varying nature.

Dr. NEVILLE WOOD thought that no case had been made out for the transference to a public or semi-public institution of patients able to command efficient nursing in their homes. He had never known infection to spread in such circumstances.

Mr. T. R. ATKINSON said that when acting as referee in the last smallpox epidemic it had never happened to him to see a case of smallpox which could have easily been mistaken for scarlet fever, but he had found difficulty when cases of measles were about. As to sequelæ, kidney troubles were the most to be dreaded.

Dr. E. A. SAUNDERS agreed with the probable identity of scarlatinal rheumatism and acute rheumatism.

Dr. G. S. HOVENDEN doubted if infection lasted six weeks in the absence of peeling and discharge from nose or ears, and hoped that at some future time a test as to infection would be evolved so that each case might be treated on its merits. He still believed in the advantage of inoculation with eucalyptus oil.

Mr. BISHOP HARMAN asked if Dr. Crookshank had made any observations on the effects of scarlet fever upon the eyes of his patients. He discussed the recent work of Dr. Tarantus in Constantinople on what he had named "Kératite superficielle exanthématique." In the London County Council Blind Schools he had had patients who had lost their eyes from intercurrent inflammation when under treatment for scarlet fever.

Abstracts from Current Literature.

Medicine.

The estimation and quantitative significance of hydrochloric acid in the gastric contents (*Quart. Journ. of Med.*, October, 1909).—**W. H. Willcox**, in a paper on this subject, describes an analysis of the stomach contents in twenty-five children. He found that in congenital hypertrophic pyloric stenosis free hydrochloric acid was usually absent and the active hydrochloric acid much reduced. He considers that this is due to the marked gastritis present, because in two early cases where gastritis had not occurred free hydrochloric acid was present and the active hydrochloric acid normal in amount. In six cases of pyloric spasm in children without thickening of the pylorus the free hydrochloric acid was absent and the active hydrochloric acid about normal (between 0.1 and 0.2 per cent.). Marasmus in children was found to be associated with absence of free hydrochloric acid and a marked reduction of active hydrochloric acid in the gastric contents.
JAMES E. H. SAWYER (Birmingham).

The myopathies or muscular dystrophies (*Quart. Journ. of Med.*, April, 1910, p. 313).—**Frederick E. Batten** gives a critical review of the present standpoint of our knowledge with regard to the group of cases known under the title, "myopathy or muscular dystrophy." The following classification is suggested:

- (1) The simple atrophic type (Myotonia congenita or Myotonia congenita).
- (2) The pseudo-hypertrophic type.
- (3) The juvenile type (Erb).
- (4) The facio-scapulo-humeral type (Landouzy and Déjerine).
- (5) The distal type (Gowers).
- (6) The myotonia atrophica type.
- (7) Mixed and transitional types.

It is assumed that the characteristic features of the pseudo-hypertrophic, the juvenile, and the facio-scapulo-humeral types are well known.

The *simple atrophic type* has the following features: The disease is congenital or starts in early infancy, and is characterised by smallness, lack of

power, and loss of tone in all muscles of the body, without localised atrophy or hypertrophy of individual muscles or groups of muscles. All movements are capable of being formed, but in a feeble manner. The disease is but slowly progressive, for the child may, as development takes place, learn to sit up, and possibly to stand with support. As a rule these children never learn to walk, but adopt some strange method of getting about; the child will roll round and round in the long axis of the body in order to get from one part of the room to the other, or will assume a squatting attitude, to which the name "frog-child" was originally applied by Dr. Head.

Closely allied to this condition is that described by Oppenheim under the title "*myatonia congenita*," which is characterised by an extreme flaccidity of the muscles associated with the entire loss of the deep reflexes, usually most marked at time of birth, and always showing a tendency to slow and progressive amelioration. There is great weakness, but no absolute paralysis of any muscle. The limbs are most affected; the face is almost always exempt. The muscles are small and soft, but there is no local wasting. Contractures are prone to occur. It is claimed that this condition is clinically quite distinct from, and has not been proved to be associated with, the myopathies on the following grounds:

- (1) The myopathies are familial diseases, whereas myatonia is not.
- (2) Several types of myopathy often show familial relationship, whereas no case of myatonia has been reported in the myopathic family.
- (3) In myatonia the condition is usually obvious at birth, whereas myopathy is never present at birth nor reaches its maximum in a few days.
- (4) The characteristic muscular flaccidity is not present in myopathy.
- (5) Myopathy is characterised by local muscular wasting, which is not present in myatonia.
- (6) Course—myopathy, progressive muscular weakness, myatonia, progressive amelioration.
- (7) Return of deep reflexes has been recorded in myatonia, never in myopathy.

The distal type.—The characteristic features are the weakness and atrophy of distal muscles, while the proximal muscles remain well developed. Although the condition was originally described by Gowers, yet its full recognition and its separation from the peroneal or neuritic muscular atrophy is due to Spiller.

Myotonia atrophica.—This is characterised by the rare association of muscular atrophy with a slow relaxation of muscles after voluntary contraction. This is the characteristic feature of myotonia congenita (Thomson's disease).

The second part of this review deals with the question, "Can recovery or arrest of disease take place in cases of myopathy?" It seems that there is little doubt that some cases of myopathy become arrested, but that it is very doubtful that one ever becomes cured.

As regards the morbid anatomy, it is generally recognised that in most cases no change can be found in the nervous system, but that the muscles show various degrees of atrophy and fibrosis. Changes, however, have been found in the spinal cord in a certain number of cases of muscular dystrophy, and consist of a considerable diminution in the number of cells of the chief groups of the ventral horns, and a corresponding atrophy and diminution in the number of fibres in the ventral roots, and in many bundles of the nerve-trunks.

Myopathies or muscular dystrophies must be regarded as a whole, and

though for clinical purposes it is convenient to separate them into types, yet there is no hard and fast line of distinction between one type and another.

JAMES E. H. SAWYER (Birmingham).

Dental school clinics ('*Med. Corr. Blatt des Württ. ärzt. Landesvereins*, October 26, 1907).—The Committee of the German Clinic for School Hygiene points out that dental caries is the most widespread disease among the children, that it interferes with the child's development and is a factor in infectious diseases. The systematic treatment of this disease can only be properly undertaken in school clinics. These must be established in all towns under the direction of school dentists. Small rural districts must combine and pay a school dentist. The systematic treatment of the teeth is the most effective means for the prevention of infectious diseases, including tuberculosis.

M. D. EDER.

A case of so-called congenital elevation of the shoulder-blade ('*Allg. Wien. med. Zeit.*, February 25, 1908).—**Mautner** and **Selka** report this abnormality in a suckling, aged 3 months. The paternal grandmother was an epileptic; the father's ear-lobes were wanting, which defect is foreshadowed in the child. The left scapula is twisted around three axes: (1) the sagittal, inwards with elevation of the inferior angle; (2) the vertical; and (3) the frontal, twisting the scapula nearer the clavicle. The supraspinatus fossa is ill-developed and flat. A skiagram showed the left neck and shoulder line to be shorter and steeper than the right; both clavicles have normal curves and are on the same level.

M. D. EDER.

Epidermolysis bullosa hereditaria (*Viennese Society for Medicine and Pediatrics*), ('*Wien. klin. Rundschau*, March 15, 1908).—**Leiner** showed a boy, aged 10 years, with this disease, from which he had suffered since the first few weeks after birth. He was constantly subject to either severe or mild outbreaks, especially on the soles, palms and extensor surfaces of the limbs. The nails were brittle, bent, and those of the second and third fingers of the left hand much stunted. A sister of the patient is a like sufferer.

M. D. EDER.

A case of juvenile general paralysis ('*Intercol. Med. Journ.*, February 20, 1908).—**Cole** and **Stephens** report this case by reason of its extreme rarity in Victoria. The child was aged 10 years, with the intellect of four or five and the general aspect of infantilism; the discs suggested optic atrophy. Later the gait became spastic, Romberg's sign was present, and twelve months later he had reached the paralytic stage. There was a history of paternal syphilis; the mother had suckled this and another syphilitic child without herself showing any signs of disease.

M. D. EDER.

The results of photometric examinations in schools ('*Prague Med. Wochens.*, March 26, 1908).—**Quirsfeld**, after daily examinations carried on throughout the entire year under all sorts of atmospheric conditions, makes the following recommendations, amongst others, for school buildings. The school-room should face N., N.E., or N.W.; the windows should be large and the ratio of glass area 1:5, the pillars of the windows narrow and the smallest possible quantity of wood-work in the windows; the curtains should be light grey and transparent, so that only the direct sunlight is kept out; the walls should be white or grey and all objects to be

kept as far away as possible from them; no plants to be allowed in the windows.

M. D. EDER.

Double irido-choroiditis of influenzal origin (*La Medicina de los Niños*, February, 1908).—**Sarabia** reports the case of a child, aged 14 months, who the eighth day after an attack of influenza was noticed to have a serous exudation in the anterior chambers of both eyes. This was found to proceed from a double iritis with abundant plastic exudation, which filled the pupillary region, the anterior surface of the iris, and part of the anterior chamber. The pupils were contracted, lachrymation extreme, and the surrounding irrigation very deep. It was impossible to determine the vision, but it was certain that the child only perceived light. After five weeks' treatment there was a re-absorption of the exudation, and it was then found that the ciliary processes and the choroid coats had been likewise affected. Mydriatics were cautiously continued and sodium iodide for the next three weeks. The condition of the eyes was then as follows: Both pupils dilated and immobile, but no exudation present, the iris discoloured and atrophied, the anterior chamber transparent and shallower than normal, tension of the eye normal. The lens was yellowish-white and the fundus a mass of choroidal exudations.

M. D. EDER.

Cirrhosis of liver in children, with special reference to its ætiology (*Wien. klin. Rundschau*, January 19, 26, February 2, 9, 16).—**Pexa** discusses in some detail the various causes of this disease; his classification is partly clinical, partly pathological. Since it is a disease rarely seen among children he considers all cases deserve careful recognition. During fourteen years of the clinic for children in Prague, among 4604 children there were but five cases of cirrhosis clinically observed. He describes two of these cases in full: one, a male child, aged 14 months, with cirrhosis atrophica toxinfectoria (tuberculous dyspeptus); the mother was suffering from pulmonary tuberculosis. The child was jaundiced with an enormous spleen and free fluid in the abdomen. Death nineteen days after reception in hospital. The full report of the post-mortem is given. The liver was atrophic with cholestasis of right lobe; histologically interstitial hepatitis. The second case was one of atrophic biliary cirrhosis in a boy, aged 11 years, who had been suffering from ill-health some months before jaundice set in. Death occurred some six months later; clinically it was a typical case of hepatic cirrhosis, and this was confirmed at the post-mortem. The cause of this disease it was impossible to determine; it must be ascribed to some form of toxæmia, but it was not alcohol. It was not a form of Hanot's disease since the liver was not enlarged.

M. D. EDER.

The infectiousness and contagiousity of acute poliomyelitis (*New York State Journ. of Med.*, 1909, p. 484).—**Le Grand Kerr**.—Out of sixty-five personal cases the writer found only one instance in which more than one in a family were affected. He concludes that there is no familial susceptibility, but rather an individual susceptibility due to local malnutrition, exhaustion, and nerve impairment. The influence of previous diseases is negative. On the other hand, the susceptibility is affected by age, as sixty of the cases were less than three years old.

J. D. ROLLESTON.

Cholelithiasis in a child (*Med. Klinik*, 1909, p. 14).—**W. Stoeltzner**.—A boy, aged $7\frac{1}{2}$ years, who had had no illness except diphtheria two

years previously, was admitted to hospital for jaundice. The liver was enlarged and tender, the urine contained bile, and the stools were clay-coloured. Ten days after the onset the symptoms disappeared. A week later he had an attack of abdominal pain, and the following morning passed a stool containing about twenty small stones. Some more stones were found in the stools three days afterwards. No further attacks occurred. The stones were found to consist of cholesterin.

J. D. ROLLESTON.

Embryonal adeno-sarcoma of the kidney (*Arch. of Pediat.*, xxvi, 1909, p. 824).—**Martha Wollstein** has collected 106 cases from literature, sixty of which occurred in the first four years of life, ten in the fifth year, twenty between five and thirteen, and seven in adults. The majority are found in one kidney only, and are situated at either pole or in the centre. They are usually encapsuled. The present case occurred in a boy, aged 2 years and 2 months, admitted to hospital for a hard, painless, movable mass which entirely filled the left iliac region. The left kidney and tumour were removed. Four months later nodules were observed in the operation scar. Six months after the first operation a second was performed, at which an inoperable retro-peritoneal tumour was found. Death preceded by a convulsion took place two weeks later. The autopsy showed infiltration of the abdominal wall, multiple secondary abdominal tumours, and metastases in both lungs. The other organs were free.

J. D. ROLLESTON.

Spasmodic stricture of the œsophagus (*Arch. of Pediat.*, xxvi, 1909, p. 734).—**L. E. La Fetra**.—Numerous cases of cicatricial stricture of the œsophagus in children have been recorded (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1909, p. 432), but spasmodic stenosis has hitherto been confined to adults and older children. The present case is that of a girl, aged 16 months, who used to vomit while food was being taken, seldom afterwards. When being fed she would put her left hand down her throat and bring up a large quantity of mucus and food. The vomiting was worse when she was excited. When her attention was diverted she would keep her food down. The passage of a stomach-tube showed an obstruction at the lower end of the œsophagus. The spasmodic nature of the stenosis was proved by the X rays, which showed that the food in which bismuth subcarbonate had been mixed passed entirely through the œsophagus without leaving any residue at the point of obstruction. Improvement occurred under codeine and afterwards with tincture of belladonna, which was given both to check the secretion of mucus and to relax the spasm.

J. D. ROLLESTON.

Casein curds in infants' stools (*Arch. of Pediat.*, xxvi, 1909, p. 919).—**F. B. Talbot**, in reply to an article by Meyer and Leopold, states that they have not discriminated between the two kinds of curds, but have classed together both the casein and the fat curds under the term of "so-called casein masses." The fat curds are small, soft, and white, the casein curds large and tough, and never appear in the stools of infants taking a casein-free diet.

J. D. ROLLESTON.

The association of varicella with scarlet fever (*Thèses de Paris*, 1909-10, No. 123).—**E. Rousset**.—The thesis is based on twenty cases of varicella which occurred in Hutinel's scarlet fever block at the Hôpital des Enfants Malades. The following are the principal conclusions: (1) Vari-

cella occurring in the course of scarlet fever has an unusually long incubation period. (2) The eruption and fever of varicella are usually more intense in convalescence from scarlet fever than in previously healthy persons, and are apt to be especially severe when the two exanthemata are contemporaneous. (3) Suppuration of the pocks is unusually frequent when the two diseases are associated. (4) Renal complications are not more frequent than in uncomplicated varicella. In only a third of the cases was a slight and transient albuminuria noted. (5) The cerebro-spinal fluid shows no changes, as it sometimes does in the erythemata met with in children. (6) The prognosis is good.

J. D. ROLLESTON.

Meningism (*'Arch. of Pediat.,'* xxvii, 1910, p. 10).—**Langley Porter**.—This word was coined by Dupré in 1894 to describe a clinical picture resembling true meningitis, but unaccompanied by demonstrable changes in the meninges and tending to rapid and complete recovery on disappearance of the toxæmia, which is almost invariably the cause of the condition. Meningism is often met with in pneumonia, typhoid fever, rheumatism, malaria, diphtheria and the exanthemata, especially measles. Diagnosis must be made by blood-counts and lumbar puncture, the cerebro-spinal fluid in meningism being clear and escaping at normal pressure. Porter recommends subcutaneous injection of normal saline solution as treatment, since it helps both kidney and gut to excrete the toxins. Six illustrative cases are recorded in children, aged from five months to eight years, suffering from typhoid fever, congenital syphilis, broncho-pneumonia, and pulmonary tuberculosis.

J. D. ROLLESTON.

Congenital stenosis of the duodenum (*'Arch. of Pediat.,'* xxvii, 1910, p. 37).—**R. G. Freeman**.—In this rare condition, of which only sixty-three cases, including the present one, have been recorded, the symptoms are similar to those of congenital hypertrophic stenosis (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1908, p. 127). A primipara gave birth to a male child, which showed no symptoms for the first twenty-four hours, but vomited dark brown fluid on the second day. On the third day there was no vomiting, but jaundice developed. On the fourth vomiting recurred, and continued until death on the tenth day. Some light yellow material was found in the motions, which seemed to indicate that milk had passed into the lower bowel. No operation was performed. At the autopsy the stomach and upper portion of the duodenum were found to be dilated. The duodenum near the stricture was firmly bound down by deeply bile-stained adhesions.

J. D. ROLLESTON.

Malignant diphtheria (*'Thèses de Paris,'* 1909-1910, No. 191).—**A. Casses**.—Malignant diphtheria is characterised clinically by the following symptoms: (a) Circulatory troubles, such as arterial hypotension, tachycardia, paralytic dilatation of the heart, tendency to collapse, syncope, and sudden death; (b) digestive troubles, such as anorexia, vomiting, and in exceptional cases, abdominal pain; (c) nervous troubles, such as asthenia and local or generalised paralyses; (d) constitutional disturbance shown by pallor, prostration, and modifications of the temperature, hyperthermia being followed by hypothermia. These symptoms exactly correspond to experimental or spontaneous supra-renal insufficiency. The pathogeny of malignant diphtheria is therefore best explained by the theory of supra-renal insufficiency. Treatment should consist in the injection of large doses of

antitoxin and the administration of adrenalin. Five illustrative cases are recorded.

J. D. ROLLESTON.

Congenital heart disease (*Montreal Med. News,* April, 1908).—**Abbot**, in the study of the reports of a large number of necropsies of cases of congenital heart disease, has found the proportions of the different varieties as follows: (1) Localised defects of the inter-auricular septum, 28 cases; (2) localised defects of the interventricular septum, 40 cases; (3) complete defects of the cardiac septa, 12 cases; (4) complete defects of the aortic septum, 14 cases, including 8 cases of persistent arterial trunk and 8 cases of communications between the aorta and pulmonary artery; (5) Transposition of the arterial trunks, 47 cases; (6) congenital pulmonary stenosis, 75 cases, 7 with closed septa, 9 with patent foramen ovale, and 59 with defect of the interventricular septum; (7) congenital pulmonary atresia, 28 cases, 17 with defect of the interventricular septum; (8) aorta, stenosis, 8 cases; (9) tricuspid stenosis, 9 cases; (10) patent ductus arteriosus, 19 cases; (11) coarctation of the aorta, 32 cases, 5 of the infantile and 27 of the adult type; (12) hypoplasia of the aorta, 2 cases. Cyanosis was most marked in pulmonary stenosis, and of transposition, and usually absent in coarctation of the aorta and patency of the duct.

J. PORTER PARKINSON.

The bacteriology of perleche (*Journ. de med. de Bord.,* May, 1908).—**Auché** describes the onset of this condition as an alteration of the epidermis of the labial commissures, which become white, as if macerated, above and below the commissural fold; a fissure appears, and the irritation causes constant licking, which has given the name to it. Cultivation has shown the constant presence of the *Streptococcus pyogenes* and often of *Staphylococcus cereus albus*, sometimes pure and sometimes associated with the *Staphylococcus aureus*, the latter only playing a secondary rôle. Sometimes the *Staphylococcus albus* can be found, but never without the first-named organism. The author considers that the facts show that the *Staphylococcus pyogenes*, which is found in all the cultures, is the true cause and the others are merely secondary infections. These results are the outcome of bacteriological examination of the successive cases.

J. PORTER PARKINSON.

The condition of the gums in measles (*Practitioner,* August, 1908, p. 326).—**Tylecote**.—The recognition of Koplik's spots has proved a difficulty to many practitioners, and Dr. Frank E. Tylecote brings forward another diagnostic sign in measles, namely, a definite injection of the gums. This appears two or three days before the rash, and may persist until the rash is beginning to fade. It is in marked contrast to the normal pink appearance of the gums, which is also present in scarlet fever, rubella, and influenza. It is easily recognised by natural or artificial light. In an epidemic of fifty cases of measles he found a well-marked marginal ulcerative gingivitis as a complication in 60 per cent. of the cases in the third week.

G. A. SUTHERLAND.

Pneumococcal peritonitis (*Practitioner,* September, 1908, p. 462).—**Reginald F. Jowers** relates a case of this affection in a previously healthy girl, aged 14 years. The illness began with what was apparently an attack of mild follicular tonsillitis. On the third day she was seized with violent

abdominal pains, accompanied by diarrhoea and tenesmus. Peritonitis was diagnosed and laparotomy was performed, the expectation being that a diseased appendix would be found. A quantity of odourless pus was removed, and the only lesion discovered was a distended right Fallopian tube and swollen ovary. These were removed. A pure culture of the pneumococcus was obtained from both the inside and the outside of the tube. Pane's anti-pneumococcal serum (20 c.c.) was injected on two subsequent occasions, and later a vaccine prepared from the pneumococci found. The patient's condition was grave for some time and pyrexia persisted for five weeks, but ultimately complete recovery ensued. Mr. Jowers discusses, in connection with this case, the modes of origin of pneumococcal peritonitis, namely—(1) general blood infection, (2) intestinal infection, and (3) vaginal infection. As regards the last of these, the illness followed immediately on a menstrual period, and the tube removed showed evidence of acute salpingitis, but on the other hand there had been no vaginal discharge before or during the illness. There was no reason to suspect intestinal infection. It is suggested that the tonsil was the primary source of infection, and that the pneumococci passing into the blood had attacked the Fallopian tube at the menstrual period, and from there infected the general peritoneal cavity.

G. A. SUTHERLAND.

The clinical aspects of anaphylaxis (*La Clin. Infant.*, March 1, 1910, No. 5, p. 142).—E. Lesné, in the course of a paper on this subject, describes a case of anaphylaxis to ovo-albumin. A girl, aged 8 years, brought up on the breast, tolerated eggs well until seven years old, although from time to time she had had urticaria, or unilateral oedema of the eyelids or face. A year ago she was suddenly seized at the commencement of her mid-day meal with severe abdominal pain; she became pallid and had copious diarrhoea; then the pains disappeared and she went on with her meal. The same symptoms were repeated at the same time on following days. Meat and wine were excluded from the dietary, and as the trouble persisted it was attributed to the egg which always formed part of the mid-day meal. As soon as it was omitted the pains immediately disappeared. No further symptoms occurred until she partook of a dish containing a very small quantity of egg; after the ingestion of the first spoonful abdominal pains and vomiting supervened. Gastric intolerance was absolute, and during forty-eight hours the child vomited even spoonfuls of iced water. The tongue was red and dry, the face drawn; there was wasting and extreme feebleness. Temperature varied between 36·2 and 36·5° C., pulse 140 and thready. Urine scanty, albuminous, and contained acetone. After a period of diarrhoea there was constipation with enlarged liver. Treatment consisted of hot packs, saline injections, and lavage. In certain cases milk may produce similar effects. There are infants brought up on the bottle who have for some time tolerated cow's milk, then one day intolerance makes its appearance, and afterwards the least quantity causes vomiting, diarrhoea, and phenomena of collapse. Hutinel has recently attributed such cases to anaphylaxis, and this lactic anaphylaxis is often satisfactorily dealt with by substituting butter-milk or whey, and Besredka has shown that in guinea-pigs whey has no anaphylactic properties, but that it vaccinates against the accidents of lactic anaphylaxis. Clinically anaphylaxis by ingestion shows itself under two aspects: (1) Phenomena of slight intoxication, digestive troubles, urticaria, and trophulus, localised oedemas allied to Quincke's disease; (2) phenomena of severe intoxication, abdominal pain, vomiting

with constipation or diarrhoea, choleraic symptoms, with fever or more often **hypothermia**, diminution of arterial pressure, and collapse. This last form has a strong resemblance to the affection known as periodic vomiting of childhood, which, according to the author, may in a great number of cases be attributable to anaphylaxis.

VINCENT DICKINSON.

Pigmentary patches and spina bifida (*La Clin. Infant.*, April 15, 1910, No. 8, p. 238).—A. da Costa Ferreira draws attention to the hypothesis that certain pigmented patches observed in Bulgarian infants are due to abnormalities in the closure of the vertebral column, and constitute, so to speak, the transitory remains of an abnormality of which the maximum degree is represented by spina bifida. The author described in the *Bulletin de la Soc. d'Anthrop. de Paris*, 1908, the case of an idiot with blue dorso-sacro-lumbar patches which he called "taches mongoliques," and which he considered to be, not racial stigmata, but rather a dystrophy perhaps due to a spirillosis of the mother. He now reports that the mother afterwards gave birth to an eight months foetus who had a sessile spina bifida with rectal prolapse and double club-foot. It may be that these pigmentary patches are not abnormalities of the closure of the vertebral column, but they are certainly abnormalities of evolution analogous to them. The blue patches represent a type of "inferior pigmentation," the skin pigmentation represented perhaps ordinarily in an intra-uterine fetal phase by cells which habitually disappear, and which do not become evident in new-born Europeans except in the course of an arrest or disturbance of evolution. In the presence of a case so striking and complete as the author's, it must be admitted that in our races these spots, especially when they present an extensive area, have a definite significance as dystrophic stigmata and not as racial stigmata, *i. e.* they are disturbances of evolution, just as is spina bifida.

VINCENT DICKINSON.

Infantile scurvy involving the hip-joint (*New York Med. Journ.*, December 4, 1909).—Jacobsen reports two cases of this condition. The first was a boy, about a year old, who had been brought up on a patent food. He had always been weak and was pale and fretful, while for several months there had been repeated bleedings from the gums and bowel. One day he fell from a chair, striking his left hip and thigh. There was no sign of injury afterwards, but the leg could not be moved or even touched without causing great pain. The limb was held in a flexed position, but there was no wasting and no alteration in the buttocks or in the gluteal folds. The gums were spongy and bled easily. Recognising the condition as one of scurvy the dietary was changed and extension applied to the limb. Immediate improvement followed and the child soon recovered. The other case was also a boy who showed evidence of marked pain in both lower extremities, especially in the right. While both hip-joints were affected there was also some disturbance in the knees. Any attempt at movement caused him to cry out. There was no swelling or obvious change about the knee-joints, and no signs of hip-joint disease. There had been frequent epistaxis for about six months and also hæmorrhage from the gums, which were swollen and spongy. The child was being fed on peptogenic milk-powder, but after a change in his dietary and without any medication or attention to the local condition he improved at once, and within a week was free from pain.

T. R. WHIPHAM.

Pathology.

Experimental epidemic poliomyelitis (*Arch. of Pediat.*, xxvii, 1910, p. 93).—**Simon Flexner** and **Paul Lewis**.—The first successful inoculations of monkeys with spinal cords from fatal cases of poliomyelitis were made by Landsteiner and Popper in May, 1909. The injections were made into the peritoneal cavity. One monkey became paralysed in the lower limbs, and died on the sixth day after inoculation; the other was killed on the nineteenth day. In both lesions of the spinal cord, similar to those in man, were found. The disease could not be transferred to other monkeys. Since September, 1909, Flexner and Lewis have successfully inoculated monkeys with the virus of poliomyelitis by intra-cerebral, intra-peritoneal, subcutaneous, and intraneural injections, and transmitted the virus through eight series of monkeys. Characteristic naked-eye and microscopical lesions were found in the cord of the affected monkeys. Experimental poliomyelitis is a severe disease, as 40 per cent. of the cases were fatal. When recovery occurs residues of paralysis persist, as in the human subject. The writers failed to discover, either in film preparations or in cultures, bacteria or protozoa which could account for the infection, but their experiments proved that the infective agent of poliomyelitis belongs to the class of minute and filterable viruses which have not been hitherto demonstrated by the microscope. A study of the degree of resistance of the virus showed that the virulence of a human spinal cord from a case of poliomyelitis is retained after being frozen for forty days, and that the spinal cord of an infected monkey still transmits the disease after being suspended seven days over caustic potash. Inoculation experiments proved that the virus was contained not only in the spinal cord and brain but in the blood, lymphatic glands, cerebro-spinal fluid and naso-pharyngeal mucosa. As regards immunity to re-infection, it was found that monkeys which had recovered did not react to re-inoculation, while control animals were paralysed. Inoculation of other animals besides monkeys was unsuccessful.

J. D. ROLLESTON.

Therapeutics.

The great value of collargol in infantile dysentery (*Brazil Medico*, December 22, 1907, to February 1, 1908).—**Moncorvo, Filho** and **Pires** have used this remedy for the past three years and strongly recommended it in the form of lavage. They commence with a 1 or 2 per 1000 solution, increasing that strength, if necessary, to 5 per mil. It is desirable to irrigate the bowel first with sterilised or plain boiled water, and then to employ the collargol solution. But of 34 cases, nearly all of which were very severe, they report 28 complete cures, 3 improved, 2 deaths. Many cases which were seemingly hopeless recovered in forty-eight hours; in others several days were required before a cure was effected.

M. D. EDER.

On the internal administration of protargol in children's diseases (*Allg. Wien. med. Zeit.*, February 18, 1908).—**Hesky**, after emphasising the advice given by the makers that solutions of protargol must be prepared with cold water, states that he used it in 15 cases; at first in cases of simple dyspepsia with vomiting in breast or bottle babies. The results were so uniformly admirable that he next employed it in severe cases of intestinal catarrh of sucklings with good results. In one case a baby, aged $2\frac{1}{2}$ months,

reared on artificial foods, was, when first seen, in a terrible condition of marasmus, with 20 to 30 stools daily. Careful alterations in diet effected nothing until protargol was administered. Vomiting ceased after third dose; the stools soon lost their foul colour and were reduced to six daily. The child was so atrophied that it was not possible to save it. The doses advised are: in the first eight weeks employ a solution of 1 in 5000 to 1 in 500, giving a teaspoonful ten to fifteen minutes before each feeding. Children take it without trouble and the writer never saw any ill-results. Sometimes a little sodium bicarbonate seems to be useful after the feeding. In older children a solution of 1 in 500 can be given. Neumann has warmly recommended this drug in similar cases.

M. D. EDER.

Marpmann's scarlatinal serum (*Allgemeine Wiener medicin. Zeitung*, January 14, 1908).—**Monti** states that this serum seems a useful and reliable prophylactic for "contacts." Two hundred observations have been made in which it has been so used; only two cases of scarlatina occurred among them. The attacks were severe but both recovered. The number of observations is too few to pronounce judgment. As soon as it has been found to be absolutely harmless and the observations remain hopeful he will use it on a large scale.

M. D. EDER.

Treatment of infantile paralysis (*La Clin. Infant.*, April 1, No. 7, p. 222).—**Dr. Laquerrière** lays down the following: (1) At the onset during the febrile stage one remedy alone is of service—hydrotherapy practised under the form either of tepid baths or refrigeration of the vertebral column by a bag applied to it. (2) In the succeeding weeks after the cessation of the fever, when the paralysis, at first general, becomes spontaneously localised to certain muscles, all fatigue and worry must be avoided so as to allow the medullary cells, which are simply inhibited, to recover their function, and so as not to over-work muscles which will recover by themselves. At this stage hydrotherapy in the form of warm or tepid baths, especially salt ones, and electricity by means of the constant current applied gradually, possess at the same time a tonic and sedative action which demands their employment to the exclusion of any other procedure. (3) In the stage of slow retrogression there is no fear of lighting up the medullary process, as the lesions are established and circumscribed. The general health must be attended to; sea or mountain air, warm salt baths, sea baths, sun baths, are the most powerful means of toning the organism. The nutrition of the affected limbs must be acted on by massage, passive movements, donches, the constant current, one pole on the limb and the other on the vertebral column. Articular deformities must be attended to by manual treatment, mechanico-therapy, and careful watching for faulty attitudes. Motility must be encouraged by electricity, gymnastics being rarely available for the wasted and weak muscles. (4) In the last stage, that is, three or four years after the onset, the muscles which have completely or partially recovered should be re-educated by simple or electrical means. Deformed articulations must be subjected to mechanico-therapy by orthopaedic apparatus or surgical means. Muscles still affected must be still subjected to electrical treatment or transplantation of tendons. (5) This treatment should be commenced as soon as possible; infants thus treated in the first weeks escape the worse consequences of the disease. But even a late commencement may be followed by considerable success.

VINCENT DICKINSON.

Surgery.

Intussusception (*'Boston Med. and Surg. Journ.,'* April, 1908).—**Stone** reviews some of the recent literature. Treves says: "The general mortality of the disease is 70 per cent., and 80 per cent. die before the seventh day. If laparotomy be done at all, therefore, it should be performed within the first forty-eight hours, and if possible within the first twenty-four hours." Fitz, in 1889, fifty-one cases treated medically with a mortality of 69 per cent., while of thirty-six cases treated surgically the mortality was eighty per cent. The latest American text-books teach that laparotomy is only to be undertaken as a last resort. In England strong opinions have been expressed in favour of immediate laparotomy, by Edmund Owen, Pitts, Power, Eccles, Tubby and others. Recently Clubbe, of Sidney, has advocated preliminary irrigation by injections of warm oil on the ground that it reduces the intussusception to a certain extent in the best and gentlest way, and so lessens the shock of the coming operation. His total number of cases is 144, and of these 14 were reduced by injections, that is, 10 per cent.; 124 were treated by laparotomy, 84 being cured and 40 being fatal. His later results have shown much improvement over the earlier ones, partly no doubt owing to increased skill, but partly to operating earlier after the onset of the symptoms. Great stress therefore should be laid on an early diagnosis.

J. PORTER PARKINSON.

Pulled elbow (*'The Postgrad.,'* February, 1908).—**Heckmann** says this lesion is usually caused in children under five years being suddenly grasped by the hand or forearm to save it from falling. The child begins to cry, and the affected arm, presumably paralysed, hangs down, with the forearm slightly flexed, and the hand pronated, the posture resembling that in fractured clavicle. There is pain and inability to supinate the hand, and the upper arm cannot be elevated freely. There are no symptoms of fracture or dislocation, but sometimes there is pain on pressure over the head of the radius, and some separation between it and the lower end of the humerus. If untreated the symptoms disappear in a week or two, but if the forearm is forcibly extended and supinated the child is instantly cured. Goyrand, who first described the condition, considered there was a subluxation or partial dislocation of the cartilage of the distal radio-ulnar articulation. Others thought it was due to a compression of the interosseous membrane or soft parts between the two bones of the forearm during sudden pronation. Others, again, thought there was a partial dislocation of the head of the radius, which is easily produced in a child owing to its small size and the weakness of its ligaments. Skiagraphy has not solved the question. Girls are much more often affected than boys, owing to their muscles and ligaments being weaker. The lesion is apt to recur in the same patient, and this speaks strongly in favour that weakness of muscles and ligaments is the chief factor in its production.

J. PORTER PARKINSON.

Subcutaneous treatment of hernia in children (*'Glasgow Med. Journ.,'* December, 1909).—**Faulds** recommends the following treatment of hernia in children in cases where the relation of the parts can be clearly defined by palpation. The usual preparations for an anæsthetic are carried out, and the skin is sterilised as for the ordinary operation. The surgeon then reduces the hernia and inserts his left forefinger into the inguinal canal,

by invaginating the scrotum, and feels both pillars of the ring. The size of the opening is thus determined and an estimation made of the number of stitches necessary to occlude it. Seldom more than two stitches, and often only one, is required. A strong, curved needle, threaded with a stout silk ligature, is pushed through the skin about the top of the opening and guided by the forefinger through one pillar of the ring to the other, which it pierces in the opposite direction. The point of the needle is then brought out through the skin, re-introduced through the point of exit, and made to traverse the subcutaneous fat in the direction of the long axis of the canal. The second pillar is again transfixed at a lower level and the needle point guided across to the first pillar, which is again pierced, thence up in the subcutaneous fat to the original point of entrance, through which it is made to emerge. The opening of the canal is thus occluded by drawing the purse-string inserted in this manner. At first the skin and subcutaneous tissues are puckered together, but by a little manipulation with forceps the skin and subcutaneous fat can be freed and the ligature tied firmly on the ring. By lifting the skin at the point of entrance with a pair of forceps the knot is submerged and no trace of the operation is left after a few days. In this way the canal is closed and the two surfaces of the sac are brought into apposition, room, of course, being left for the spermatic cord.

T. R. WHIPHAM.

Treatment of fracture of the femur in the new-born (*Münch. med. Wochens.*, November 16, 1909).—**Zancarini** describes a simple method for the treatment of obstetric fracture of the femur. The leg is flexed upon the body as in the foetal position, the front of the thigh lying along the front of the abdomen, and the foot reaching to the shoulder where the clavicle acts as a support. The trunk is protected with cotton-wool and a broad bandage is passed round the leg and trunk, securely fixing the former. This position is readily borne by the infant and aids in keeping the child clean. The leg is fixed in this way for about twenty days, the bandage being removed daily and light massage applied. The author describes cases several years after the fracture has been treated in this way. The limbs show no trace of injury, not even in a skiagram, and the gait is normal.

T. R. WHIPHAM.

Review of Book.

THE MEDICAL ANNUAL, 1910. A Year-Book of Treatment and Practitioner's Index. Twenty-eighth issue. Bristol: Messrs. John Wright & Sons, Ltd. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd.

THE editor points out in the preface of this useful annual that a large amount of careful and detailed work has been accomplished in almost every department of medical knowledge, and says that the work of condensation becomes more difficult in consequence but renders the necessity for it much greater. The twenty-eighth issue is a most representative volume in this way, and there is hardly any progress in treatment of importance which has not been dealt with in its pages. Most of the articles in the volume treat with matters which have become generally accepted, and place

them in a concise form so that their main features can be readily understood. By means of this book the practitioner of medicine can keep himself conversant with all the important advancements that are made in medicine and surgery, in diseases of children, and in the other special branches of his profession.

Although most of the articles deal with subjects the work upon which has been confirmed and become accepted, yet there are a few contributions in which this is not so, and the one which is most suggestive and important for those interested in diseases of children is the paper on the treatment of certain affections by the injection of sea-water. This article is written by Dr. Robert-Simon, member of the Therapeutic Society of Paris, and he has recorded by the means of numerous illustrations some of the results of this form of treatment. He considers that in sea-water we have a plasma which will supply the protoplasmic cells with something, the lack of which causes certain chronic diseases, and he claims that by the injection of sea-water plasma we have a means for detoxicating the living body. Startling results seem to be obtained by this means of treatment in infants, wasted to the last extreme, and having vomited everything for weeks, for in 80 per cent. of the cases, after the first injection, the children began to show signs of improvement. The results are so marvellous that we consider this means of treatment should be given an extensive trial, and if the results can be confirmed, then the most important therapeutic means of recent years has been discovered. This form of treatment has also had satisfactory results in certain gastro-intestinal disorders of adults, in anæmia and chlorosis, and in some diseases of the skin.

In the article on congenital malformations of the heart a great omission occurs in that no reference is made to the Wightman Lecture of 1909, by the late Dr. George Carpenter. That lecture brought our knowledge of congenital cardiac affections so completely up to date, and contained such a large amount of valuable information as regards the differential diagnosis of these various lesions, that no paper on the subject can be considered complete without reference to it.

The article by Professor G. F. Still on "Infant Feeding" is a very valuable contribution, and in it is emphasised the fact that the proper condition of milk for all feeding purposes, and especially for the feeding of infants and young children, is *not* that it should be sterilised or preserved, but that it should be *clean* and require neither sterilisation nor to be "preserved indefinitely." Another article by the same author on the treatment of enuresis contains many useful and practical points, and in it reference is made to the curative influence of thyroid extract. There are other articles by Professor G. F. Still which deal with the treatment of infantile diarrhœa, infantile convulsions, pertussis, rickets, and congenital syphilis. Among other valuable papers by Dr. Robert Hutchison, the following have for their subject the treatment of diseases in children: acute appendicitis, constipation, family jaundice, tuberculous peritonitis, rheumatism, worms, and splenomegaly.

The whole volume maintains the high standard of its predecessors, and is a most useful reference book for all practitioners of medicine. There are a number of new contributors, whose names add importance and distinction to this well-known and valuable book on the advances made in the treatment of disease. The illustrations are good and none of them superfluous, while the general style of the volume is a great credit to the author and to the publishers.

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

VOL. VII.

AUGUST, 1910.

No. 80.

Original Articles.

THE DUTY OF THE GENERAL PRACTITIONER TO THE
DEAF CHILD.*

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GENTLEMEN,—The subject which I have chosen for my lecture to you this afternoon may possibly come as a surprise. The majority of you may probably think that there can be no doubt whatever as to what your duty to the deaf child can be, and this I am prepared fully to admit. But, from an experience of ear and nose work which began twenty years ago, I have been forced to the conclusion that, although this duty may be very clear, it is one which has been, and, I fear, still is, terribly neglected. Were it otherwise, I venture to affirm that there would be fewer deaf adults in the world, and what, perhaps, may not have occurred to you, there would be fewer deaf-mutes. The question of deaf-mutism is very largely a question for the practitioner of general medicine and surgery, as much as, or even more than, for the otologist. I speak here more particularly of acquired deaf-mutism, although the general practitioner also has it in his power to do good work in the prevention of the congenital variety. But of that I shall speak later. Too frequently the acquired deaf-mute comes into the hands of the specialist too late for him to render any real service. The otologist occupies an inter-

* Lecture to the Polyclinic, June the 20th, 1910.

mediate position in this matter between the general practitioner and the educationalist, and is too often helpless. It is the general practitioner who might have earlier saved the patient from his trouble, and when the deaf-mute comes to the otologist the latter can only pass him on to the teacher of the deaf. The only method of treating acquired deaf-mutism is by prevention.

I am, therefore, not going to talk this afternoon about mastoids and labyrinthine suppuration, nystagmus and Bárány's tests, vertigo and tinnitus, or the vast strides of otology and the improvements in modern aural operations, but to enter into the early conditions, many of them eminently preventable, that are the forerunners of those ear diseases which make these modern aural operations necessary, and which, if left to themselves, are sure and certain in their evil consequences.

Great as have been the improvements in aural operative surgery, the real progress of otology has been along the line of prophylaxis. True advancement is not so much towards the treatment of what may be termed "end-results" as in the probing and elucidation of causes and their prevention.

The importance of preserving the hearing becomes more patent to us when we realise that (as has been shown) approximately only one person in ten has normal auditory acuity. Our normal perception of sound is such that it is beyond the requirements of daily civilised life, and there may be moderate deafness in one ear without the knowledge of the individual. Further, functional changes of the conducting apparatus take place in chronic catarrhal deafness usually without pain. These two facts may serve to account for the neglect of so important an organ at the time when its restoration would be an easy task, but they must not be considered as excuses. I need not point out the disabilities to which a person whose hearing is defective is subjected as regards his career, or how it may bar him from the public services, or how his field of usefulness as a self-supporting citizen is narrowed thereby. With a large number of such persons the commencement of disability goes back to early school life, at a time when its causes are easily remedied, and this fact alone should rouse us to a sense of our grave duties towards the deaf child. School medical inspection is beginning to do good work in this regard, and parents are commencing to realise that the ear and nose require as much supervision as do the eyes and teeth. An American physician has remarked recently, with a bold outspokenness which does him credit, "That the children of our private schools and so-called better class are neglected must be largely the fault of the advice and inefficient treatment of the family physician,

who is not alive to the possibilities of the early care and treatment of the middle ear." That sentence was applied to the United States, but I fear that its applicability is by no means confined to that country.

Were I asked what is the greatest advance which has marked otology during the past ten or fifteen years, I should unhesitatingly reply that it is the recognition of the fact that the greatest cause of ear disease lies in the nose and naso-pharynx. We know now that the respiratory tract commences, not at the larynx and trachea as the older anatomical text-books suggested, but at the anterior nares, and that the middle ear, which is a diverticulum of that tract, shares with the nose in its functional and pathological variations from the normal. It will be useful to my purpose to consider for a moment the anatomy and physiology of the Eustachian tube. The outer or tympanic end of each tube is enclosed, for about half an inch, in hard bone; it is a mere slit for about an inch and a half embedded in the soft tissues, its inner end being about three inches from the outside, at the tip of the nose. Its lumen is lined with ciliated epithelium, the motion of whose cilia is towards the naso-pharynx, and working to drive out infective agents; its true dilator is the tensor palati muscle, which pulls it open; its floor is pushed upwards by the swelling of the rounded belly of the levator palati, and its posterior or cartilaginous lip is pushed backward by this same contraction, and pulled backward by the retractor. By these movements its mouth is opened, and the relaxation of these muscles, especially the levator palati, causes, with them, a pumping or sucking motion which clears the tube, and, assisted by the elasticity of the tympanic membrane, even sucks air and fluids from the tympanum itself. If, however, the region of its mouth is covered in, or pressed upon by fibroid or adenoid tumours, or by swollen mucous membranes, these motions are lost or diminished, and the important protection afforded by normal ventilation and drainage is in abeyance, so that secretions cannot get out, and infections gain an entrance. That this protection is effective is to be concluded from the rarity of ear-troubles when the sides of the naso-pharynx are unaffected by growths or swellings, and by their frequency when the reverse is the case. The real orifice of the Eustachian tube, therefore, lies at the outer nostril, and nasal obstruction is equivalent to Eustachian obstruction, for, unless the nostril is free, air cannot obtain access to replace that sucked out of the tympanum, and the normal Eustachian movements during respiration cannot take place. The mucous and serous glands of the nasal mucous membrane are functionally dis-

turbed by faulty nasal development, by which their activity is increased, or from the result of acute infections. In the better classes of adults nasal hyperæmia is increased by under-exercise, over-heating, and intestinal toxæmia set up by over-feeding, so that, speaking generally, catarrhal deafness is as common in the richer as in the poorer classes, despite the greater exposure of the latter to acute diseases. Such conditions as acute middle-ear suppuration and mastoid empyema, although compelling attention and in urgent need of treatment, do not work so much havoc upon the hearing as does a neglected chronic catarrh. The great majority of cases of deafness are directly resultant from acute or chronic inflammations, and it is, therefore, to these that I direct your special attention rather than to the rarer forms of defective hearing, although I shall refer later to some of these.

If we take a large number of chronic deaf adult cases, we shall find that in the majority the condition began in the first years of life. At that time treatment is certain, and it is the period at which the general practitioner is in close touch with the child, and has it in his power to do a very great deal to teach parents the early symptoms of middle-ear complications and their results if neglected. He should use his best endeavours to instruct the public that earache, even when the attacks are transient, is not due to such causes as teething, neuralgia, and worms, as has long been a popular superstition, but that it is a middle-ear congestion, due to conditions in the upper respiratory tract, and, as such, calling for careful and immediate attention. It cannot fail to strike anyone who possesses a large experience of deaf work that it is a very common fact amongst adult patients with chronic catarrhal deafness that they suffered from recurrent attacks of earache in early years. These attacks disappear as time goes on, but the ear which is thus affected later develops permanent changes in its mucous lining, or, maybe, is invaded by a suppurative process connected with some more active infection. Such an ear seldom or never regains completely its function, unless the post-nasal space is restored to normal and the balance of atmospheric pressure is reconstituted in the tympanum through the Eustachian tube. These premonitory symptoms, manifested in the majority of cases, are too frequently disregarded, not only by parents, but by the profession.

This brings us to the consideration of what condition is found in the naso-pharynx of children who suffer in the way I have described.

The shape and relative size of the nose and naso-pharynx change

very much between the period of their development in the fœtus and the form which they assume permanently in later life. These changes have a very important influence upon the pathological conditions which may develop in this region, and make any form of obstruction therein a much more serious matter in young children than in adults. The function of the nose, primarily the seat of the special organ of smell, is in man chiefly respiratory. That part of the mucous membrane which is concerned with olfaction is confined to a patch of epithelium, about the size of a threepenny piece and of a yellowish colour, situated high up, just above the middle and in front of the superior turbinate body. The whole of the remaining mucous membrane, with its many folds and reduplications, its complicated and elaborate blood, lymphatic and glandular arrangements, is wholly respiratory in function. The width of each nasal chamber is relatively less in the infant than in the adult, hence nasal obstruction is more serious, not merely because of its relatively greater interference with respiration, but also because the obstruction causes a decided interference with sucking. The septum is relatively thicker in the infant; the naso-pharynx at birth is relatively long and shallow, and the Eustachian tubes are more patent and have less prominent cushions. The great cause of nasal obstruction in children is due to hypertrophy of the pharyngeal tonsil—*adenoids*—and the first step in the prevention of otitis media in infants and young children is the consideration of the problems connected with lymphoid development.

Hypertrophied adenoid tissue may be congenital. In children six months old, if there is much adenoid hypertrophy, it may obstruct the larynx, for the naso-pharynx is then relatively low and the larynx is relatively high. It may also, from its relatively low position, make deglutition difficult. Eustace Smith has recently pointed out in the 'Practitioner' that a frequent and hitherto insufficiently recognised symptom of adenoids in children is the existence of gastric derangements due to the swallowing and nocturnal trickling into the stomach of the thick and acrid mucus secreted by the adenoid mass. A case of my own will serve forcibly to demonstrate this fact. A little girl, aged 7 years, suffered, among other adenoid symptoms, from frequent attacks of dyspepsia, with morning nausea and vomiting. Since the removal of a large mass of adenoids some five or six years ago, these attacks, which had been considered to be quite unconnected with the growth and which had been treated unsuccessfully by divers methods, have entirely ceased.

Now lymphoid tissue in the naso-pharynx is a normal condition in

every child, but when the child is predisposed to hypertrophy of that tissue (and the condition often runs in families) the general practitioner has a grave responsibility on his shoulders. He should give careful consideration to, and should be prepared to advise parents on, the subjects of dress, exercise, ventilation, food, the care of the teeth, the various irritations of the mucous membrane of the mouth, upon general hygiene and metabolism. He should warn them of the effect upon the naso-pharynx and its lymphoid tissue of the infectious diseases of children, as well as the results upon the faucial and pharyngeal tonsils of simple acute infections. If this advice is conscientiously and firmly given, it will do much towards the prevention of hypertrophy and the evils which follow in its train.

When adenoid tissue is associated with recurrent attacks of earache, or with otorrhœa, with follicular pharyngitis and nasal obstruction, there is no need of posterior rhinoscopy or palpation to know that the condition has become pathological. Another popular superstition that is dying, but dying hard, is that enlarged cervical glands are due to scrofula. Until recently I thought that the very word "scrofula" was a thing of the past with the profession at any rate, although in the lay mind it is a mysterious entity that has some vague connection with tubercle, although no one has ever been able to give me a satisfactory definition of what "scrofula" really is. But lately I have heard it used quite confidently as describing a condition that is apparently inevitable in childhood by various medical men who, in these days of cheap text-books, post-graduate courses and voluminous literature, certainly ought to know better. Here, again, when the practitioner meets with this condition of so-called scrofulous glands, he can do much by pointing out that they are due in reality to the absorption of toxins from inflammation of the faucial and pharyngeal tonsils. Here I would point out that adenoids and tonsils, being similar structures, the former are just as liable as the latter to infection of their crypts and to become septic. I look upon this tendency to septicity as one of the gravest features of tonsils and adenoids and their influence. Except in very young children, where they cause obstruction by their size, hypertrophied tonsils and adenoids are not of such grave importance merely on account of their hypertrophy as when they become septic. De Ponthière insisted upon this in a valuable paper read in 1909 to the French Otological Society. In that paper he pointed out that in some cases of chorea the condition was kept up and probably initiated by chronic septic tonsils and adenoids. I might add that

de Ponthière worked carefully at the subject for some twelve years before he published anything upon it—an example worthy of imitation by others.

As regards the effect of adenoids upon the middle ear, I would ask you to bear in mind that they act in two ways: By causing obstruction by their mass to nasal respiration, and, when septic, by infecting the tympanum through the Eustachian tube. Mere obstruction by mass is more likely to have serious results upon the ear in younger children, whose post-nasal spaces are small and undeveloped. Obstruction by mass also interferes with the function of the palatine muscles, which normally open the Eustachian tubes and ventilate the middle ear. Important as this is, it is septicity which has the gravest results; the frequent catching of colds, during which the child becomes deaf from extension up the Eustachian tubes, is the common complication of adenoids.

This leads me to speak of the adenoid operation. Long experience has brought me to the opinion that this procedure is one which is frequently the worst performed of all the simple manipulations of surgery. After the age of four years, true adenoid hypertrophy does not recur if properly removed, yet one frequently sees cases in which symptoms have persisted after operation, and on investigation it is found that the growths have never been efficiently taken away. To the looker-on the removal of adenoids and tonsils is a very simple and easy affair, but this is one of the instances where the looker-on does not always see most of the game. The result of such imperfect surgery is disappointment for both operator and parent, and unmerited discredit for the operation.

In operating with forceps it requires a good deal of practice before the surgeon knows thoroughly well what he is doing in the post-nasal space. The cradled curette is a cleaner and more efficient instrument, and the forceps are rightly falling into the limbo of the obsolete. There is, however, a wrong way as well as a right way of using the curette. Inexperienced operators do not appreciate the fact that, to be successful with this instrument, the front of the curette should be felt to touch the nasal septum, and the fenestrum pressed well against the pharyngeal roof before sweeping it backwards. If the former is not done the most anterior portion of the growth is left, whilst if one fails to push the instrument well home the adenoids are merely shaved and not removed. No surgeon should consider himself efficient at removing adenoids until he can bring away the whole mass in one sweep. Moreover, the curette, to do its work properly, must be kept sharp,

for if allowed to become blunt it leaves tags which must be removed later.

But it is not merely the removal of the central mass that constitutes the operation. The fossæ of Rosenmüller—those recesses behind the Eustachian cushion—must be cleared thoroughly as well. As far as the effect upon the middle ear is concerned, it is not necessary to have any obstruction to nasal breathing from adenoids. Small amounts of lymphoid tissue about the ostia of the tubes, and especially in Rosenmüller's fossæ, will keep up an otitis media. In adults the posterior rhinoscope will reveal their results in adhesions passing between the Eustachian orifice and the pharyngeal wall, distorting the tubal opening and keeping up irritation. Therefore, a thorough clearance of Rosenmüller's fossæ is essential to success, and neglect of this measure is the secret of most of the failures met with after the adenoid operation.

I have just pointed out that there is no need to have nasal obstruction from adenoids for them to affect the middle ear, and that a small amount of lymphoid tissue about the tubes is enough to cause and to keep up a serous otitis media in children; hence the cases of middle-ear involvement, in which the real cause goes unsuspected. In the course of an investigation into a large number of school children, with a view to ascertaining the occurrence of adenoids, which I published recently, 51 out of 1246 had ear complications. Every one of these children had adenoids. They were, however, by no means all of them mouth-breathers. It should never be forgotten that earache in children, especially before puberty, unless due to injury, practically never occurs without the presence of adenoids in Rosenmüller's fossæ, and that progressive catarrhal deafness in adults is always accompanied and caused by lessening of the normal movements of the Eustachian tubes, by swollen mucous membranes in the sides of the naso-pharynx, or by remains of adenoids, or adhesions resulting from them, which block the fossæ of Rosenmüller. Adult catarrhal deafness is therefore due in the majority of cases to causes which have been in operation since infancy or childhood—neglected pathological legacies which are bound to show themselves in later life.

Another important fact to bear in mind is that in children under the age of four years an acute middle-ear inflammation may exist without any symptoms of pain. These cases must be familiar to every general practitioner. A child has a sudden rise of temperature, with restlessness and, possibly, symptoms of meningeal irritation, for which no physical cause can be discovered, but which

improve after a discharge from the middle ear has become established. In such cases the practitioner should never fail to examine the ear before discharge has drawn his attention to it, when redness and bulging of the membrana tympani will reveal the true nature of the case, and a clean incision, followed by the removal of adenoids, will prevent the danger of a discharge, which may become chronic, as well as, if possible, permanent impairment of hearing. Such cases without pain are common in broncho-pneumonia, influenza, and enteric, and their neglect is another potent cause of deafness in after life.

In measles and scarlet fever there is a high percentage of middle-ear involvement, and prompt treatment is necessary to avert serious consequences and fatal impairment of hearing. I may point out here that, in scarlet fever, the condition is often one of true bone inflammation rather than of simple middle-ear suppuration, and this accounts for the number of chronic suppurations with mastoid involvement and great destruction of tissues seen after this infectious fever. Full information as to scarlatinal otitis will be found in a paper which I published in the 'Practitioner' for January, 1909.

In dealing with the acute otitis of children, the general practitioner should base his care upon the careful inspection of the tympanic membrane. Merely to watch the case without due consideration of the stage of the disease is to court disaster and allow to pass the time for interference, the ultimate result being serious and often irremediable destruction of hearing. There is always a time for prevention, and if not promptly seized it passes for good and all. I will sketch out what is, to my mind, the best course to pursue in simple cases. If the patient is seen before discharge has appeared, incision of the bulging membrane, followed by mopping and the insertion of a light drain of sterile gauze, carried to the bottom of the meatus, will relieve the condition and prevent natural perforation. It is usually better not to irrigate after incision. Clearance of the nasal passages by a warm alkaline spray and benzoin inhalations will keep the naso-pharynx clear and the Eustachian tube open until such time as it is advisable to remove the adenoids. If, however, perforation and discharge have already occurred, and pain is a prominent symptom, hot irrigations and inhalations of benzoin or menthol, confinement to bed in a warm room, and a mild cathartic will suffice. During the congestive stage, but only then, large irrigations every two hours of hot normal sterile salt solution are useful, followed by careful mopping and the intro-

duction of a drain of ribbon gauze to the bottom of the meatus. The tympanic membrane should be inspected frequently, and if the perforation is small and the discharge profuse, incision should be practised. Should discharge persist for more than ten or twelve days, its continuance is due to some complication, and further frequent and large irrigation is inadvisable as conducive to the formation of polypi, adhesions, and the possibility of mastoid or intra-cranial complications. As soon as acute symptoms have subsided the naso-pharynx should be cleared, for in these cases it is not so much a question of a steadily progressive disease as of constant reinfection through the Eustachian tube, and it is only by attacking the primary source of these infections that exacerbations can be prevented. A middle-ear discharge is always a serious matter, and treatment should never be allowed to relax so long as there is a drop of pus in the meatus. Too early cessation of treatment is the secret of intermittent otorrhœa, and most of the chronic suppurations of adult life date back to childhood. Once discharge has ceased, and measures taken to prevent recurrence, other treatment can be undertaken with a view to endeavour to restore or improve the hearing.

I have now said enough on the subject of the prevention of chronic deafness in the adult by prompt attention to the ear conditions of childhood. It is pre-eminently in this department of aural surgery that the general practitioner and the otologist can be of mutual help. With our advances in ætiology and pathology it behoves us to turn aside from what I have already called end-results in order that we may do the utmost that our knowledge allows us to prevent the occurrence and to stem the progress of the acute and chronic inflammatory conditions which were the original causes of serious impairment of the hearing, causes which lead in some cases to complete deafness and consequent acquired deaf-mutism. In the words of an American otologist, the aurist must be a practical rhinologist.

It is incumbent upon me to speak briefly of some of the less common conditions which may cause serious deafness in children. These affect the internal ear, and are chiefly, leaving out the exanthemata, meningitis (simple, tuberculous and epidemic), congenital syphilis and mumps. Little can be said as to the first of these. Congenital syphilis attacks the ear generally between the ages of six and fourteen years, usually after the eye manifestations. So far as my own observations go, the eye symptoms usually precede the aural condition closely, but there may be a considerable interval of time between them, and although the ocular disease may come after the deafness, it is much less common for it to do so. Thus, in

thirty-two cases under my own observation, the eyes were attacked first in fourteen (43·7 per cent.), at the same time as the ears in six (18·7 per cent.), and after the ears in only four (12·5 per cent.), the relation being doubtful in eight (25·0 per cent.). The points upon which I would specially insist are two, first, that the ear seems especially prone to be attacked in those in whom the general disease has been allowed to escape treatment in infancy, second, that unless treatment be prompt, nothing can be done to improve the resulting deafness. Therefore every infant with signs of congenital syphilis should be submitted to a vigorous course of treatment, in order that the prevention of this complication may at least be attempted. The labyrinthine complications of congenital syphilis are highly resistant to specific treatment, and it is by no means uncommon to find them making their appearance during the time when the eye condition is under appropriate treatment, and progressing to more or less complete deafness in spite of it. The only measure which gives any hope is pilocarpine injection at the first onset of ear symptoms. The serious nature of this condition is exemplified when I tell you that, out of 500 deaf-mutes examined by me in the London County Council Deaf Schools, 17 out of the 225 acquired cases were due to congenital syphilis—a percentage of 7·5. Kerr Love found, at the Glasgow Institution, 1·8 per cent., and Castex, in describing his researches into the causation of deaf-mutism in the Paris institutions, has mentioned only 18 cases out of 719 (2·5 per cent.). My figures, therefore, appear to be unusually high, and speak eloquently as to want of care in the prevention of this terrible complication of the congenital disease.

Mumps may cause deafness by involvement of the middle ear or of the labyrinth. Cases due to this condition are decidedly rare. The labyrinthine involvement is due, apparently, to a metastasis, or to a primary localisation of the disease in the cochlea. Boot published, in the 'Journal of the American Medical Association' for December the 5th, 1908, an analysis of fifty-one cases, including two from his own observation, and his paper well repays perusal. The time and mode of onset of acute labyrinthitis in mumps varies; the symptoms—rapid deafness with or without vertigo and nausea—appear usually from the first to the third day of the primary disease, but they may be as late as the sixth or seventh, and have been known to precede it. The general practitioner should never forget this serious complication of mumps, for everything depends upon prompt treatment, and pilocarpine and iodide of potassium have been found to give excellent results.

In conclusion I must revert once more to the subject of deaf-mutism, which was touched upon at the beginning of this lecture. I cannot go into the causes of deaf-mutism here, but I would recommend to your attention an excellent paper by Mackay, published in the 'Practitioner' for October, 1908, in which it is remarked that—"Of all the practitioners of medicine and surgery, the general practitioner is the one who can do most to prevent it. It is his advice that the public acts upon, when it acts upon expert advice at all in things pertaining to health, and it is his aid that the afflicted public seeks first when it awakens to a sense of its aural disabilities."

There are two great classes of deaf-mutes, the congenital and the acquired. As regards the latter the general practitioner can diminish their number, if he will but give practical attention to the treatment of ear conditions in children (the salient points of which I have endeavoured to lay down), and especially to those occurring in the course of the general diseases.

But it is not alone in acquired deaf-mutism that his duty calls him to activity. When the history, and especially the family history, of the congenitally deaf is examined, two facts come into prominence—heredity and consanguinity. Taking first heredity, it will be found that opinions differ widely, but there is no doubt that the view that heredity plays a prominent part is coming to be much more generally held. It is not sufficient to take into consideration the immediate effects of deaf-mute parentage, but one must look much further and include not merely the direct ancestry, but the collateral branches. If this is done it will be found that the abnormality of deaf-mutism appears repeatedly. Heredity is less frequent in the direct line (parents and grandparents), more frequent in collateral branches (great uncles and aunts, uncles, aunts, grandparents' cousins, parents' cousins, cousins, and second cousins), and most frequent among the brothers and sisters of the deaf-mute.

The effect of consanguinity is also much disputed, but it is undoubted that it is a potent predisposing cause. I can only quote here a very limited number of facts to demonstrate this. In Denmark, according to Mygge, consanguineous marriages may be supposed to represent about 3 to 4 per cent. of all marriages, yet 6.75 per cent. of the deaf-mutes admitted to the Royal Deaf and Dumb Institution in Copenhagen were the result of such marriages. Deaf-mutism is more common amongst Jews than amongst Protestants and Roman Catholics, and more common amongst Protestants than amongst Roman Catholics. This follows the customs prevailing in these

three sects in regard to marriage, for intermarrying largely occurs amongst the Jews, and Roman Catholics discourage cousin marriages whilst Protestants permit them. It is, however, only right to say that there have been brought forward facts which tend to deductions of an opposite nature to those just quoted. Possibly, however, this anomaly may be explained when the investigations into the relationships of the parents are more exactly conducted, as suggested by Mackay in reference to the marriage customs of the Fijians. It may be fairly stated, nevertheless, that something like 50 per cent. of the cases of congenital deaf-mutism are the result of marriages either (1) amongst those who have cases, either direct or collateral, in their families, or (2) amongst those who are blood relations.

Here, then, becomes apparent another obvious duty of the general practitioner, and one which he will not infrequently have an opportunity of bringing into action. He should, whenever the occasion occurs, do all he can to discourage such marriages. It may be that when we, as a nation, are more alive to the necessities of race culture, when we more fully realise that national wealth is not gold, but healthy, normal citizens, we shall discourage consanguineous marriages in tainted families by law. Until then it will remain the paramount duty of every medical man to do his utmost in this direction, and to foster in his patients the feeling that we have a bigger duty towards future generations than we have to ourselves.

Lastly, there is a duty to congenital and acquired deaf children, whose defect, it must be remembered, lies, in the majority of cases, only in the absence of the sense of hearing. That duty is to impress upon their parents that to obtain the best results from education by the oral system (which is the only system which can give to the deaf child anything approaching normal intercourse with his more fortunate brethren), such education must begin as early as possible, whilst brain and larynx are still plastic, that attendance at the deaf school must be as regular as possible, and that the oral training carried out by the trained teacher of the deaf must be continued, supplemented, and amplified at home by treating the child as a *speaker* and not as a *signer*.

THE PORTALS OF INFECTION IN TUBERCULOSIS.

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THE question of the portals through which tubercle may infect the body is a large and very important one, for upon it depends the means which should be undertaken to ensure prophylaxis against the disease, which causes 10·7 per cent. of the deaths in this country. Of recent years there has been a tendency towards a change of opinion as to which is the chief mode of entrance of the infection, though whether such a change is justified in all cases still remains to be proved.

The possible avenues of infection appear to be five in number : (1) Through the lungs themselves as the result of the inhalation of tubercle bacilli either in the form of dust, or suspended in droplets of moisture, the exhalation or expectoration of infected beings ; (2) through the mucous membrane of the mouth, nose or pharynx ; (3) through the intestinal tract as the result of the ingestion of infected milk or other food, or of the swallowing of mucus or saliva infected with bacilli ; (4) through other mucous membranes, such as the conjunctival or that of the urino-genital tract, or through the skin ; (5) by means of the placental circulation from a tuberculous mother. The last mode of infection, occurring, as it does, only when placental tuberculosiis exists, is so rare that for the present purpose it may be left out of consideration.

In the first place as regards infection through the mouth and naso-pharynx there is, according to Grober's experiments, a direct route to the pleuræ and lungs from the tonsils by way of the cervical lymphatic glands, and this observation, it may be mentioned, has led that investigator to suggest that to a tonsillar infection must be attributed the fact that it is the apices of the lungs rather than the other parts which are chiefly attacked by the tubercle bacillus. If, then, the tonsils play a part in the infection by tubercle, it is possible that other structures in the mouth and pharynx may also serve as an entrance for the bacillus, *e. g.* adenoid vegetations, which are so closely associated with abnormal tonsils, and carious teeth, in conjunction with which pulmonary tuberculosis is often found. Thus Cornet has recorded cases in which the mucous membrane of the nasal and buccal cavities was said to be

the entrance of infection. In these cases where the mouth and pharynx are said to be at fault infection possibly occurs by means of food, though the probability that it may be air-borne cannot be excluded, and Cornet in particular lays stress on dust and dried particles as important factors in infection. Aufrecht also affirms that the tonsil is the primary portal of infection, which spreads thence to the cervical and later to the bronchial glands: from these infecting bacilli pass into the branches of the pulmonary artery, and so the lungs become affected by the blood-stream. Roux and Jossierand likewise believe that the most frequent mode of infection is by way of the lymphatic ring of the naso-pharynx, and that the next most important portal is the "lower tonsil" or vermiform appendix, though of this they adduce no very convincing proofs. Giliberti also from inoculation experiments on guinea-pigs finds that the cervical glands of children dying from non-tubercular causes, and presenting so far as was known no signs of tuberculosis during life, are far more frequently tuberculous than the inguinal glands. He therefore concludes that the buccal mucous membrane allows the passage of tubercle bacilli more frequently than is often supposed.

By those who hold that pulmonary infection arises through the cervical glands various routes by which the tubercle bacilli reach the lung have been suggested: (1) That from the cervical glands they enter the lymph-stream, and by means of the lymphatic vessels enter the venous system and so are conveyed to the lungs; (2) that their path is from the cervical to the supra-clavicular glands and thence to the apex of the lung; (3) that from the cervical they pass to the bronchial glands, from which they reach the blood-stream and the pulmonary tissues. In connection with this theory, however, it must be remarked that no communicating vessels between the cervical and the bronchial glands have been shown to exist.

As everyone knows, pulmonary tuberculosis was formerly considered to be a primary disease of the lungs set up by the inhalation of the tubercle bacillus, and as the bacillus has been found to be almost universal it is not to be wondered at that inhalation was at first supposed to be the chief, if not the only means of entrance. It is not so many years ago that Koch said, "In by far the majority of cases of tuberculosis the disease has its seat in the lungs and has also begun there; from this fact it is justly concluded that the germs of the disease must have got into the lungs by inhalation." And in spite of modern researches who shall say that in many instances this may not be true? The inhalation theory is

supported by the conditions known as anthracosis, siderosis, silicosis, etc., in which minute particles of metal, stone, or such-like material are found in the parenchyma of the lungs as the result either of an occupation which involves living in a dusty atmosphere, or of experimentally causing animals to breathe air laden with such particles. In such cases it has been thought by Arnold and others that the particles which escape the repelling action of the ciliated epithelium are inspired into the pulmonary alveoli, and are then taken into the alveolar cells or are swept onwards by the lymph into the bronchial glands, and the same was supposed to be the case with the tubercle bacilli, which either develop tubercles in the lungs or pass onwards to infect the lymphatic system. Considerable support to the inhalation theory has been given recently by the experiments of Cobbett, who found that the lungs of various animals, made to inhale an atmosphere laden with *B. prodigiosus*, yielded pure cultures of that organism, and this, in some instances, after ligation and division of the œsophagus. Similar experiments with tubercle bacilli afforded like results, the animals being proved to be tuberculous by the inoculation of their organs and glands into other animals. The way, however, in which the lungs become affected as the result of inhalation is not such a simple matter as might at first sight be supposed. There are several views as to the exact manner in which such an infection may be brought about. Thus Orth is of opinion that in a majority of cases of pulmonary tuberculosis the lungs are affected by a direct aërial infection through the air-passages and that the bronchial glands are subsequently involved. Ribbert upholds the same view as to inhalation being the means by which the disease is acquired, but he differs from Orth in that he supposes that the inhaled bacilli are absorbed and carried straight away to the bronchial glands, which in consequence become tuberculous, and that the lungs are infected secondarily by a spreading outwards of the disease from the foci, which were originally started in the glands. Birch Hirschfeld and Abrikossow, on the other hand, maintain that the bacilli are inhaled into the bronchi, and that the disease begins as a peri-bronchitis of a tuberculous nature, which tends to spread both centrifugally and centripetally. After the onset of caseation infected particles from these lesions become aspirated into the pulmonary alveoli and give rise to tuberculosis there.

Now if it be taken for granted that tuberculosis is caused by inhalation in one of the ways which have been just described, in what form is the infected material conveyed to the lungs? Here, again, authorities differ. Flügge believes that the infection is caused by

the inhalation of air containing minute droplets of fluid in which the tubercle bacilli are suspended. These droplets, of course, are derived from the exhalation or expectoration of infected persons, and Flügge is of opinion that comparatively few will suffice, as a less number of bacilli, according to him, are required to produce the disease by this means than would be the case by way of the intestines. That such droplets are drawn into the finest bronchi he states can be shown by inoculation experiments with material obtained from such bronchioles. Flügge maintains that moist particles are much more dangerous than dust, but on this point Cornet differs from him in that, as has been already stated, he holds that it is dried material which is the more important factor in dissemination, and in holding this opinion he is only confirming the views of the master, Koch.

One other argument in favour of the inhalation theory is put forward by Findel, who found that five million tubercle bacilli, when inhaled by a dog, caused extensive pulmonary tuberculosis, whereas 1220 times that dose, when given by the stomach, produced no effect, and again, when experimenting with guinea-pigs, he found that as small a number as twenty bacilli was sufficient to cause pulmonary disease when inhaled, but the animals were able to withstand 382,000 times that dose when given by the stomach.

As regards the other chief avenue of infection, the intestines, the possibility of an intestinal source of infection was mooted as long ago as 1868 by Chauveau, but in 1903 von Behring re-opened the question, and since that time a good deal of work has been done on the subject. I say intestinal rather than alimentary, as there is no certain evidence that infection occurs from the surface of the stomach. The gastric juice, though it is inhibitory to the growth of the tubercle bacillus, is not bactericidal, at least during the usual period of gastric digestion, so that bacilli in an active state can pass on into the intestines. Cadéac and Malet, amongst others, have failed in their experiments to produce pulmonary tuberculosis by inhalation, and Vansteenbergh and Grysez have recently cast doubts on the origin of pulmonary anthracosis through the inhalation of particles into the lungs, finding that coloured dust introduced into the alimentary tract traverses the mucous lining of the intestines, and is thence transported by the lymph- and blood-vessels to the lungs. Whitla and StClair Symmers therefore undertook further experiments on the latter subject. They began by injecting China ink diluted with water into the vein in the ear of a rabbit, and within an hour the lung was found to be full of carbon particles.

Next, guinea-pigs were fed by means of an œsophageal tube with China ink mixed with olive oil and water. In this case, too, the lungs were charged with carbon, while the upper mesenteric glands were free, a result which occurred within twenty-four hours, or even in as short a time as four hours if the animal had had no food during the previous day. And the same was the case when the carbon particles were injected into the peritoneal cavity. It appears that the carbon particles gain an entrance through the intestinal epithelium, and reaching the lymphatics pass through the mesenteric lymphatic glands, and finally find their way into the thoracic duct, and so into the venous circulation and the lungs. Vansteenberghe and Grysez have found that the distribution of the carbon particles is not the same in both young and adult animals. In young guinea-pigs thus fed by means of the stomach-tube, the particles, after reaching the mesenteric glands, were there arrested, so that the lungs remained free, whereas in adult animals they reached the lungs and mediastinal glands in the manner just described. They then tried inhalation experiments with young guinea-pigs, and found that after they had breathed a carbon-laden atmosphere for a long time the particles had reached the alveoli of the lung, but were not present in the parenchyma, while in rabbits, which breathe through the nose, they had not even reached the trachea. Further, thinking that the anthracosis which had been produced in prolonged inhalation experiments had been due to carbon which had been swallowed, they repeated their experiments after ligaturing the œsophagus, and found that the particles were arrested above the ligature, and that anthracosis was not produced. Another and even more convincing proof of the intestinal mode of infection is furnished by their next experiments. The digestive tract was left patent, and through a low tracheotomy one of the main bronchi was completely plugged with cotton-wool, thus cutting off one lung entirely. The animals were confined for a prolonged period in a carbon-laden atmosphere, and it was then found that the lung by means of which respiration had been carried on showed deposits in the bronchi and alveoli, and to a certain extent in the parenchyma also, whereas the lung which had been cut off presented an infiltration of the parenchyma with carbon, the bronchi and alveoli being free. The experiments of Cobbett, on the other hand, have led to a different result. He found that after feeding guinea-pigs with Indian ink there was no trace of pigmentation if the animals were under 600 grm. in weight, whereas in older animals there were only such traces as were found to be present in the controls.

From some of these experiments it is reasonable to suppose that the alimentary tract may be the source of a tubercular infection. Primary intestinal tuberculosis is rare (Albrecht found it in but $\frac{1}{15}$ per cent. in 3213 autopsies on young children, and Comby states that he has never seen a case), and on the analogy of anthracosis produced in the way described there is no need to presuppose such a lesion. Tubercle bacilli administered in fatty food to dogs, guinea-pigs, and other animals have been found in the chyle within a few hours, the intestinal surface being left intact. Calmette, in conjunction with Guérin and Breton, injected into the stomach through a tube emulsions of living bacilli in linseed, with the result that the bacilli were absorbed through the intestine and gave rise to tuberculous deposits in the mesenteric glands, lungs, and other viscera. In animals which lived beyond thirty days the lungs and mediastinal glands were always affected, while in guinea-pigs surviving fifty or sixty days the deep cervical glands were nearly always tuberculous, and even after ten days the entire lymphatic system was found to be infected, other guinea-pigs dying from generalised tuberculosis when injected with the substance of the inguinal glands from such cases. These experiments tend to prove that tuberculosis of even the cervical glands may have an intestinal origin, and not always be acquired from the mouth and faeces as has often been supposed.

In a consideration of the question of an intestinal mode of infection from an anatomical point of view, F. W. Jones has recently suggested that the cause of the site of election of tubercular disease in the lungs (one to two inches below the extreme apices), and in the vertebræ (from the sixth dorsal to the second lumbar), is the relationship of the thoracic duct or the right thoracic duct to these parts. The thoracic duct runs in front of the upper lumbar and the lower dorsal vertebræ, and passes upwards and forwards over the pleura a little below the apex of the left lung to join the subclavian vein, while the right thoracic duct occupies a similar position with regard to the right lung. The existence of tuberculosis in the thoracic duct seems to be well established, and the occurrence of a blocking of the duct apparently from this cause was described as far back as 1790 by Cruickshank. It seems not unlikely, therefore, that the starting-point of caries in the vertebræ and of tuberculous lesions in the lungs may be tuberculous foci in the thoracic ducts, which have been originated by absorption from the intestines.

Young and adult animals show the same difference in their

reactions to infection by the tubercle bacillus as in the case of carbon particles. Calmette and Guérin, experimenting upon young goats, found that tubercle bacilli introduced through the stomach-tube were arrested in the mesenteric glands, but that as soon as these became caseous the bacilli filtered through and the lungs were invaded. In the case of adult goats, the bacilli at once passed through the mesenteric glands and attacked the lungs without causing the glandular lesions which were obvious in the young animals.

The variations in the infection in the case of young and adult animals has been ascribed to the histological differences in the mesenteric glands at different ages. In the adult the alveoli of the glands are loose in structure, and consequently the bacilli may be supposed to pass through into the chyle, and be taken up by the polymorphonuclear leucocytes which convey them to the fine capillaries of the lungs and the bronchial glands. In young animals, on the other hand, the bacilli are arrested in the denser abdominal glands which first become affected. The reason why the bronchial glands may become affected in the adult after the mesenteric have escaped is explained by Bartel as due to the difference in behaviour to the tubercle bacillus on the part of the various groups of glands, tuberculosis, according to him, becoming manifest in a more severe degree and at an earlier period in the bronchial glands than in any others. Again, as F. W. Jones points out, the lymphatic vessels probably close down with increasing age, and in the abdomen the lymph circulation becomes more centred on the thoracic ducts. In this way the differences in tubercular infections in early and late life can be explained. With patent mesenteric lymphatics the occurrence of tuberculous peritonitis in children is easily accounted for, and the basal infection of the lungs, which is common in childhood, can be attributed to the passage of the bacilli along the lymphatics of the diaphragm. In the adult, on the other hand, the thoracic duct is the more important channel, and by this means the apices of the lungs become affected. Von Behring, it is to be noted, affirmed that adult phthisis was the result of an old intestinal infection which occurred in infancy, but Calmette and his colleagues reject this theory on the ground that their experiments show how easily the lungs can be infected in adult animals through the intestines.

Finally, it must be remembered that the introduction of tubercle bacilli into the intestinal tract is not necessarily followed by tuberculosis even in the most susceptible animals. The bacilli may pass

straight through, or if they are absorbed they may be taken up by the leucocytes and destroyed. On the other hand, if the bacilli are absorbed by the intestinal mucous membrane, they may gain entrance into the system without leaving any trace at the site of their entrance. Again, whenever generalised tuberculosis is produced by feeding, the lungs are usually affected—often more so than the other organs, and in spite of what has been stated by some authors, the bronchial glands almost invariably become affected subsequently to the lungs.

The other portals of infection, viz. the skin and the mucous membranes of the eye and urino-genital tract, need only a passing comment, as they are much less important than the two main ones. Lupus vulgaris and other tuberculous affections of the skin may possibly afford an entrance for the bacillus into the system, and a tuberculous epididymitis as the result of injury is not uncommon. The latter may occur without any evidence of tubercle elsewhere, and is presumably caused by bacilli in the urino-genital tract, and the same may be said of tuberculosis of the kidney and bladder. The lesions in the urino-genital tract may thus possibly be the starting-point of a dissemination of the disease throughout the body.

According to the two reports of the Registrar-General for 1906 and 1907 nearly three quarters of the deaths from tuberculosis were due to pulmonary phthisis. About one ninth were caused by tuberculous meningitis, and of these 66 per cent. were under the age of 5 years; one eleventh succumbed to tuberculosis of the peritoneum and mesenteric glands, of which 65 per cent. were under 5; and one fourteenth were due to generalised tuberculosis, about 44 per cent. being under 5 years of age.

Pulmonary phthisis is shown to be much more prevalent in adult life than in childhood, the most fatal period being between the ages of 25 and 45. Indeed, in my experience at a children's hospital, chronic pulmonary tuberculosis pure and simple is by no means a common event. Dr. Mary Williams, however, recently stated in one of the medical journals that 15·4 per cent. of the school children in Worcestershire were afflicted with the disease, but her statement has not been allowed to go unchallenged, and a refutation is also contained in James Millar's statement that "tuberculosis is not limited to the lung in children, but is generally disseminated, *i. e.* it is a blood infection." Pulmonary tuberculosis pure and simple, therefore, is essentially a disease of adult life, while children succumb to meningeal, abdominal, or probably more often to a

generalised tuberculosis. It seems, therefore, that the distribution of the disease in early life can be best explained by the results of Calmette and his fellow workers, *i. e.* that it is a disease caused by the ingestion of tubercle bacilli and their absorption through the intestinal tract. In adults also this may be true, but the possibility that the majority of cases are caused by inhaling the bacillus has yet to be disproved, and some significance attaches to the fact that there are countries, such as Japan, where tuberculosis is rife, but milk, the common carrier of infection, is but little consumed.

As regards the respective rôles of the human and the bovine bacillus, even if ingestion tuberculosis is admitted to occur in childhood, it does not follow that the bovine bacillus is the cause, as children have many opportunities of swallowing the human variety. Engel is strongly of the opinion that the tuberculosis of young children is almost always caused by the human type, and that the source of infection is the sputum of a phthisical nurse or mother. The superficial breathing in childhood lessens the likelihood of infection by way of the respiratory tract, and the younger the child is the more is this the case. It is probable, he thinks, therefore, that in early life a considerable part is played by the digestive tract. It must be remembered, however, that bovine tubercle bacilli have been frequently isolated from human subjects, and especially is this the case with children. They are found, moreover, generally in abdominal tuberculosis with or without tuberculous ulceration of the intestines. Bovaird states that the bovine type is present in 70 per cent. of such cases, and that it rarely occurs otherwise. This favours the view that in children at any rate a considerable number of cases are infected through the alimentary canal by tuberculous milk. Such a source of infection would be likely to give rise to lesions in the peritoneum and mesenteric glands, and, as has been stated above, 65 per cent. of those dying from this cause were under the age of 5 years. Sweeney also is of the opinion that abdominal tuberculosis is due to the bovine bacillus, as are lesions of the bones and joints, and that infection of the respiratory tract is caused by the human variety.

A review of the evidence leads one to the conclusion that the inhalation theory of tubercular infection in adults has still to be disproved. In the case of children, on the contrary, it is probable that many cases are infected through the alimentary tract, and that in them the bovine bacillus plays an important, though not exclusive, part. As regards tuberculosis in children, it must be remembered that they are very liable to become infected, and when

once the disease has gained an entrance it spreads rapidly, as a rule, giving rise to a generalised infection. The tissues in early life show but a slight resistance to the tubercle bacillus, and have little, if any, power to limit the disease to a given area, or to start reparative processes when once they are attacked. With age, however, the power of resistance increases. In infancy the lymphatic glands are the first tissues to be involved, the bronchial glands being, as a rule, the site of election. The protective power of the glands at this age being but feeble, a generalised tuberculosis in most cases results. After the first year or so the glands are more able to withstand the infection, so that protection is afforded, perhaps for a time, perhaps permanently. Later on, about puberty, the rôle of the lymphatic glands diminishes, and the disease is characterised by lesions in the apices of the lungs as in adult life, but at this age the infection is apt to be more rapid and more virulent than after full maturity has been attained.

ATELEIOSIS IN A MAN, AGED 42 YEARS; PHYSICAL DEVELOPMENT SAID TO HAVE BEEN ARRESTED AT ABOUT THE AGE OF 9 YEARS.*

By F. PARKES WEBER, M.D., F.R.C.P.,

Physician to the German Hospital, London.

THE patient, F. B. H—, aged 42 years, unmarried, first came under observation on account of slight traumatic synovitis of the left knee. He is an infantile dwarf whose physical development roughly corresponds to that of a boy of nine or ten years; but his expression, the wrinkles on his face, his attitude, his manner of speaking, and his general behaviour are rather more those of an adult. According to the family Bible, he was born in London, April the 10th, 1868, and he has heard his parents say that he was much like other children up to the age of nine years, but that his growth and development then ceased. He is said to have had "water on the brain" as a baby, and, as a child, to have had two or three falls on the head. He cannot himself remember having had any serious illness. There is no history of chronic diarrhoea or

* The case was shown at the Royal Society of Medicine (Section for the Study of Disease in Children), on May the 27th, 1910.

intestinal steatorrhœa. At present he measures 47·7 in. in height, and weighs 4 st. 13 lb. in his clothes. His head is rather large for the diminutive size of his body. The shape of his trunk, the undeveloped state of his sexual organs, the appearance of his neck (owing to the want of projection of the "pomum Adami"), and the high pitch of his voice are those of a child. There is no hair on

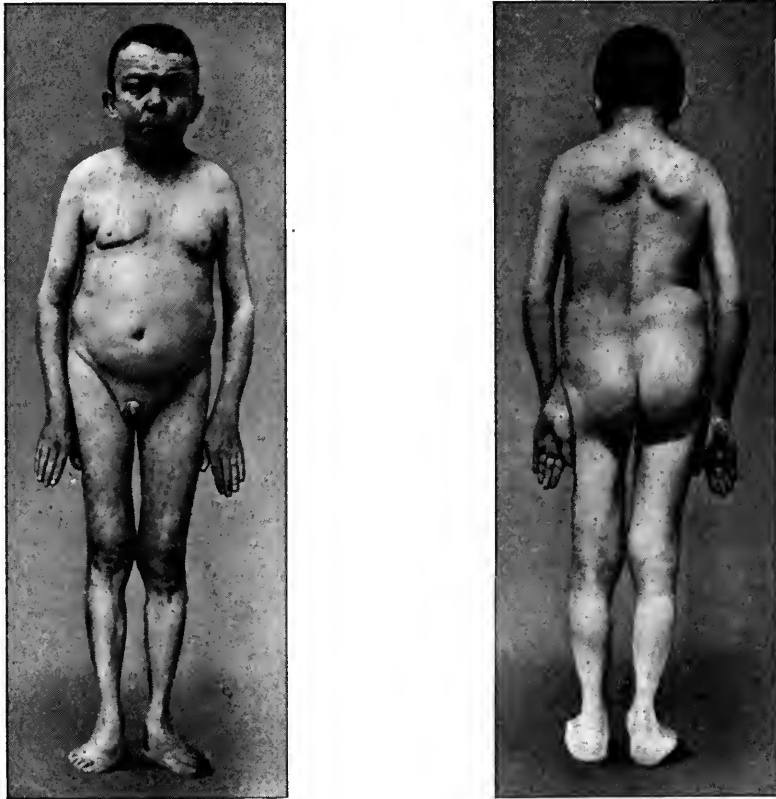


FIG. 1.—Ateleiosis in a man, aged 42 years.

his face or pubes. The penis is exceedingly small. No testicle can be felt on the right side; the left testicle, of about the size of a small cherry, is incompletely descended. Nothing abnormal can be discovered in the heart, lungs, or blood-vessels, or in the abdomen (by palpation) or urine. There is very slight spinal scoliosis. Mentally he seems normal, though perhaps somewhat childish. He cannot read or write, but, apparently "on account of weakness," the doctor would not let him go to school as a child. He earns a little

money by light work in a glass factory. Skiagrams (Dr. Finzi) of the extremities show persistence of some of the epiphysial cartilages, but the amount of union of the epiphyses with the diaphyses varies considerably in different bones. Dr. Finzi points out that, in the skiagrams of the hands, those epiphyses which are not yet joined to the diaphyses are seen to be bordered by a very deep shadow. Skiagrams of the skull show nothing special. The delicate "pink and white" colour of the patient's face, the extreme fineness of the



FIG. 2.—Skiagram of the knees.

hairs of his scalp, and the small size of his thyroid gland suggest that there may be an element of myxœdema combined with the ateleiosis, but these features may be merely a part of the general infantilism. His father and mother were both born in 1832, and lived to about the ages of fifty-six and fifty respectively. There is no history of any other dwarfism or infantilism in the family. "Ateleiosis" (the Greek word "ateleia" means incompleteness) was introduced by Hastings Gilford* as a convenient term for conditions

* 'Med.-Chir. Trans., Lond.,' 1902, vol. lxxv, p. 305.

of the kind, on account of the incompleteness of development characteristic of all cases. Apparently the epiphysial cartilages may in ateleiosis persist to a considerably more advanced age than in the present patient.* Some French authors would probably suggest a

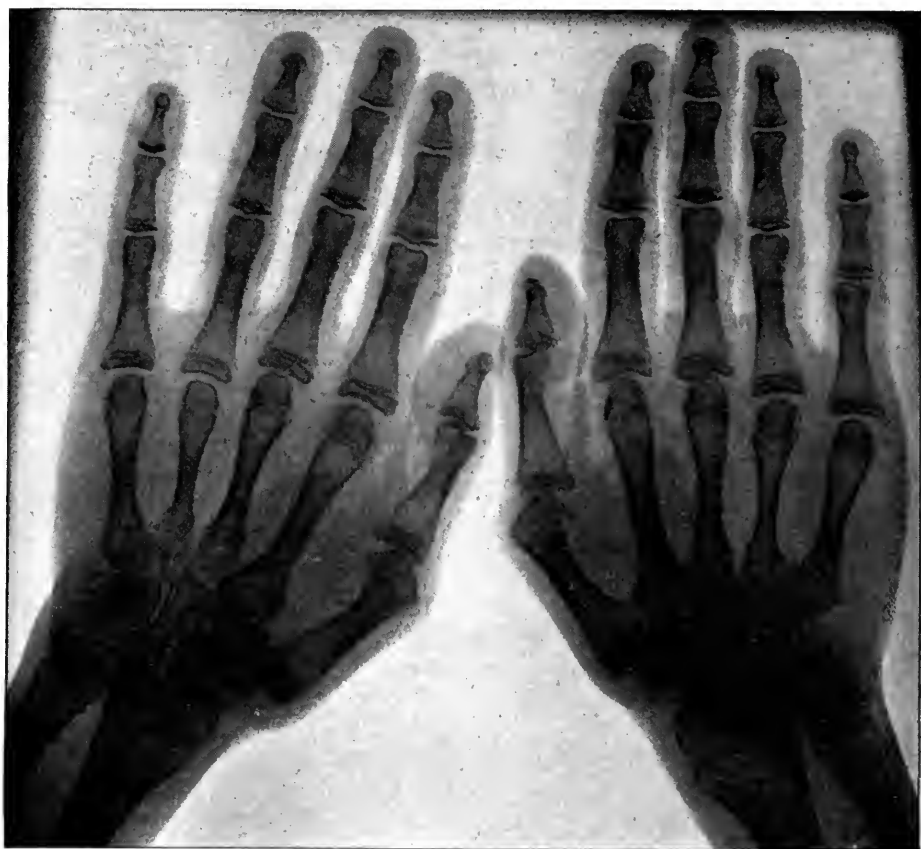


FIG. 3.—Skiagram of the hands.

theoretical condition of “polyglandular insufficiency” as an explanation for cases of ateleiosis.

* Thus, when the male dwarf whose case is described by Schaaffhausen (quoted by Hastings Gilford, *loc. cit.*, p. 325) died at the age of 61, nearly all the epiphyses were still ununited or could be easily separated. The same characteristic feature was present in the skeleton of Paltauf's case, a male dwarf who died of tuberculosis at the age of 49.

RARE CONGENITAL DEFORMITY OF THE NOSE IN AN INFANT.*

By GEORGE WILKINSON, F.R.C.S.

Surgeon to the Ear and Throat Department, Sheffield Royal Hospital.

THE infant was eight months old at the time the photograph was taken. The deformity consists of a deep depression in the middle line of the nose, with wide separation of the nostrils and flattening and broadening of the whole feature. The nose is 3 cm. wide at the level of the alæ, but only projects about 1 cm., the greatest projection being on either side of the middle line in front of each



nostril. These two prominences are separated by a depression of the tip of the nose 2 cm. wide. The nasal bones and nasal processes of the superior maxillæ are flattened. There is no separation between the nasal bones. The columella is 2 cm. broad, and the anterior nasal spine can be felt behind the columella as a broad projection of bone, about $1\frac{1}{2}$ cm. from side to side.

On inspection of the nasal passages the anterior ends of the nasal septum can be seen as a prominent ridge on the inner sides of each vestibule. The two sides of the septum are apparently separated from each other. There is no nasal obstruction. On evertting the upper lip there is seen a distinct notch on the buccal

* Photograph shown at the Laryngological Section of the Royal Society of Medicine, February the 4th, 1910.

surface in the very centre of the lip. There is also a well-marked notch in the middle line of the alveolar process. The two halves of the alveolus are not in alignment, but meet with a forward-pointing angle. Two uncut incisors can be felt beneath the gum on either side of the mesial notch, showing that this represents a division between the two halves of the pre-maxillary bone. With regard to the developmental cause of the deformity, it has arisen no doubt from failure of fusion of the two mesial masses of the fronto-nasal process. The mesial masses usually coalesce at an early period of foetal life to form the anterior part of the nasal septum, the columella, the median segment of the upper lip (lunula), and the pre-maxilla. Failure of union of these mesial masses seems to be a rare condition in the human subject.* Cases of median cleft of the lip (a true hare-lip) due to this cause have been reported by Mr. Clutton and Mr. Edmund Owen. Mr. Bland-Sutton instances the median split in the columella of Parisian pugs as a similar instance of want of union (Professor Keith). Professor Keith states that there is not a single museum specimen in London to illustrate the occurrence of a fissure in the mid-line of the nose in the human subject, nor is there a specimen of dermoids or of fistulae, which occasionally occur in the line of this fissure.

A similar case in a young man was shown at the Laryngological Society of London in 1897† by Mr. W. R. H. Stewart, who operated by making a vertical incision through the groove, removing the redundant tissue, and bringing the two halves of the nose together, with great improvement of the deformity.

The present case offers several difficulties in the successful carrying out of a similar operation. In the first place, the separation of the two sides of the nose is very considerable. The anterior ends of the two halves of the septal cartilage can be felt inside the nares. The anterior nasal spine is also a solid broad piece of bone about $1\frac{1}{2}$ cm. broad. This implies that a large amount of tissue would have to be dissected away before the two sides of the nose could be approximated. A more serious difficulty is the broadness of the whole nose as compared with its projection. Suturing the lateral cartilages in the middle line would cause very unsightly flattening, and would entirely occlude the anterior nares by reducing them to oblique slits. The first object of treatment, therefore, is to effect an approximation of the nasal processes of the superior maxillæ; and

* Professor Keith, "Congenital Malformations of the Face," *Brit. Med. Journ.*, ii, 1909, pp. 310 and 363.

† 'Proceedings of the Laryngological Society of London,' 1896-1897, iv, p. 43.

the nasal bones if possible. The child has been provided with a truss, somewhat after the pattern of Hainsby's truss, making pressure inwards on the sides of the nose, by the wearing of which for a prolonged period it is hoped to mould the feature to a somewhat narrower and less flattened shape. It will probably also be better to wait until the child is older and the nose has grown more forwards before attempting to improve its shape by operation.

London and Provincial Societies.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Friday, June the 3rd, 1910.

Mr. W. McADAM ECCLES in the chair.

Paper on the Wassermann Reaction.—Mr. N. BISHOP HARMAN, in a paper on the Wassermann reaction in eye work, described work covering a series of some forty cases seen in the out-patient department of the West London Hospital. The pathological examinations were performed by Dr. E. H. Blunt, working under the supervision of Dr. Bernstein, pathologist to the hospital. The cases fell into three groups: (1) Children suffering from acute interstitial keratitis of a type that left no reasonable doubt that the inheritance of syphilis was the primary factor. In each of these the reaction proved positive. The mothers of these children were simultaneously examined, and also gave a positive reaction. Thus, although the mothers showed no sign of syphilis, they were as profoundly affected by the syphilitic poison as their offspring. (2) Twelve cases of ocular disease, past or present, in adults, the conditions ranging from scars of interstitial keratitis long passed to recent optic atrophy with ocular paralyses. In each of these cases of presumed syphilitic origin the serum reaction proved positive. (3) The last group of ten cases covered a varied selection of inflammations, as nearly similar as possible to those found in the syphilitic groups, and yet in which there was no suspicion of a syphilitic origin. The subjects were equally divided between children and adults. In this series the serum reaction proved negative. The author considered these results added to the cumulative evidence of the reliability of the Wassermann reaction. As one of its commendable features he instanced the fact that it entailed no risks to the patient and no inconvenience other than the abstraction of a few drops of blood. When the test had been standardised, as the pathologists now proposed to do, its value would be increased, for it would not only indicate a general syphilitic infection, but also point to the particular nature of a given local inflammation.

Mr. McADAM ECCLES suggested testing the father and apparently healthy brothers and sisters of the patient.

Mr. J. E. R. McDONAGH mentioned two cases of interstitial keratitis recently under his care. One, a girl, who first showed the disease at the age of 23 years, gave a positive Wassermann reaction. The second case was a married woman with one child; she had had double interstitial keratitis, and had Hutchinsonian teeth; both mother and child gave a positive reaction. He recommended that all children of a suspected mother should be tested, and those giving a positive reaction treated with anti-syphilitic remedies.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Tuesday, June the 9th, 1910.

Dr. G. A. BERRY, *President*, in the chair.

A Paper on Congenital Cataract.—Mr. N. BISHOP HARMAN read a paper giving details of the inheritance of congenital cataract in nine families. Of these five were of lamellar cataract, one of coralliform cataract, one of discoid cataract, and one of form unknown, as the cataracts had been removed some years ago, and one of posterior polar cataract with microphthalmia. In the families with lamellar cataract several showed an inheritance through several generations and in numerous individuals. In one a marriage of first cousins seemed to accentuate it in their progeny. Another of these families showed grave mental disorder on both sides in several generations, several dying mad on the paternal side, and many suffering from epilepsy on the maternal side. The case of posterior polar cataract with microphthalmia was particularly distressing, for of five children born to an apparently healthy couple, of whom two were twin, the four surviving were all irremediably blind from the defective growth of the eye. It was noted that in several instances those affected with congenital cataract were mentally defective.

Family Choroiditis.—Mr. DOYNE showed some cases among members of a first family of "family choroiditis," and pointed out that the spots were exudations beginning in early adult life, but more generally later, increased very much in middle age, when, though the appearance of the lesion was gross, the sight was not proportionately affected, and finally, in old age, passed into atrophy with very great loss of sight.

NORTHERN ASSOCIATION OF MEDICAL WOMEN.

Saturday, June the 4th, 1910.

Miss IVENS, M.S., *President*, in the chair.

A Case of Vesical Calculi.—Dr. RUTH BALMER (Stockport) read notes of a case of vesical calculi in a girl, aged 14 years. A supra-pubic cystotomy

was performed by Miss Ivens, and two large calculi removed from a contracted bladder. A self-retaining catheter was inserted, and the wound healed by first intention. The calculi measured 2 in. by $2\frac{1}{2}$ in. each respectively, the nucleus in each case being a hairpin.

A Paper on the Treatment of School Children after Medical Inspection.—DR. MARY DAVIES (Liverpool), in a paper on the treatment of school children after medical inspection, pointed out that one of the greatest difficulties lay in the varying social positions of children attending the elementary schools, some of the parents having incomes of £300 to £400. The free treatment of such children at school clinics would be a grave injustice to the general practitioner.

Philadelphia Pediatric Society.

MEETING, June the 14th, 1910, CHARLES A. FIFE, M.D., President.

Double Decapsulation of the Kidney.—DR. E. B. HODGE again showed the girl upon whom double decapsulation of the kidney had been performed three years ago, as little is known about the late results of renal decapsulation. Double decapsulation was done three years ago for acute nephritis which did not yield to medical treatment. The immediate result was most gratifying, and when shown before the Society last year she had been in good health for a long time, and urine was free from albumin and casts upon repeated examination. How slight was the margin of safety, however, her recent history well shows. Last November she had bronchitis, which was neglected, and when seen by Dr. Hodge there was, in addition, marked œdema of face and extremities, with scanty high-coloured urine. She was then admitted to the Presbyterian Hospital. Now her condition is good, but it is a grave question how long it will be before another infection will prove too much of a burden for her crippled kidneys. The speaker felt sure that the operation saved her life. He might soon have to face the question of repeating it.

Dr. FIFE said that this case had been admitted to the Presbyterian Hospital in November, 1909. She had kept well since the operation until about three months before admission, when she became dropsical. The œdema at this time disappeared in nine days. She was then well until a week before admission, when she caught cold, and immediately eyelids, abdomen, and legs became œdematous. On admission her eyes were completely closed, face was puffy, as was the integument of the chest; abdomen was enormously distended by ascites, vulva markedly œdematous, and thighs and legs decidedly "water-logged." The urine passed in the first twenty-four hours was estimated to be about 4 oz., and contained albumin, pale granular and hyaline casts and a few leucocytes. The heart was enlarged, especially to the left; second sounds were accentuated; no murmurs. Systolic blood-pressure was 120 mm. Lungs were negative; no pleural effusion. Her condition remained unchanged for ten days, the highest urinary elimination being 10 oz. On the twelfth day this increased to 28 oz., the œdema began to subside, and in two more days had practically

disappeared. She then passed 45 to 50 oz. of urine. She was discharged five weeks after admission in good general condition, though the urine still contained a trace of albumin and a few pale granular and hyaline casts. There had been nothing in the treatment worthy of special mention. In two weeks she was re-admitted with another attack of bronchitis, with œdema almost as extensive as before. Urine was again reduced to 4 or 5 oz. a day. In three weeks swelling and ascites had disappeared. She remained in the hospital until April, and when discharged her urine was normal. Two weeks later she was re-admitted because of anasarca and suppression of urine, and was again discharged June the 7th, 1910. In the two attacks which Dr. Fife saw the patient was comatose and in a most desperate state. He had no idea that she could survive either of them. Because of the marked suppression of urine, the ease with which it was produced and relieved, because of the gravity of the symptoms and the history of operation and the conditions preceding it, the case was of unusual interest.

Noma following Typhoid Fever.—Dr. JOHN SPEESE reported the history of a child, aged 8 years, admitted to the Children's Hospital with typhoid three weeks before. Attention was directed to the condition of the mouth by the gangrenous odour of the breath, and inspection of the inner surface of the cheek disclosed an ulcerative lesion the size of a dollar, which was surrounded by a zone of induration. Externally to this area the skin was red and shining. Gums and tongue showed spots of ulceration, and several loose and necrotic teeth were present. Regarding the condition as an ulcerative stomatitis which was becoming gangrenous, Dr. Speese curetted the diseased area to limit the spread of the gangrene. After removing all necrotic tissue the raw surfaces were swabbed with nitric acid. After-treatment consisted in stimulation and frequent applications of local antiseptics. Recovery resulted in six weeks, with very slight deformity. Microscopic examination of portions of tissue removed by the curette showed streptothrix. The case demonstrates the danger of necrotic teeth, through which the streptothrix probably found entrance to the tissues. Prompt operative interference is necessary in such cases to limit the gangrene. Particular attention should be directed to the after-treatment, to the use of local antiseptics, and to the measures necessary to support the patient through a prolonged septic infection.

Dr. FRANK CROZER KNOWLES exhibited the photograph of a fatal case of noma. Two years ago an epidemic of measles occurred at St. Vincent's Home, when several cases of noma were observed, all of them ending fatally. This photograph was taken the day before death, six days after the start of the gangrenous process. Crandon, Place, and Brown ('Boston Med. and Surg. Journ.,' April, 1909) give a thorough account of seven cases of noma developing during an epidemic of measles, two of which recovered. According to Kaposi and Port the mortality from this disease is 75 per cent. Rilliet and Barthez found 95 per cent. fatalities among twenty-one cases. According to Osler it occurs after measles in about one half of all cases.

Cerebral Paralysis.—Dr. FRANCIS B. JACOBS reported the history of an Italian boy, now aged 4 years, who was observed first when seventeen months of age. He was born by the breech, with a midwife in attendance. At seventeen months he showed rickets and was suffering from pseudo-leukæmic anæmia of infancy. At twenty-one months he tried to walk, and at twenty-four months could walk only with assistance. He finally began to walk

alone at twenty-six months. When thirty-one months of age he had convulsions, after which time some asymmetry of the face and head and paralysis of the left arm and leg were noted. Movement of the left hand improved under massage; he could then walk without assistance again, but his gait was typical "scissors" gait. When three years of age he had another convulsion, since which time he has become worse, now showing distinct mental impairment. The anæmia appears to have disappeared entirely by this time. The table of blood-counts, extending over two years, showed the apparent recovery from the anæmia.

Société de Pédiatrie, Paris.

May the 17th, 1910.

Rachitic Incurvation of Tibia.—M. VICTOR VEAU showed a girl, aged 8 years, on whom he had performed a cuneiform osteotomy for an intense curvature of the right tibia. Radiographs and photographs were shown; an excellent result was obtained.

Purulent Pleurisy in Infants.—M. P. ARMAND-DELILLE described a condition met with after an attack of influenzal broncho-pneumonia, with signs of this disease at one of the lower lobes. There were, however, in addition an expiratory harsh bronchophony and ægophony. The presence of these signs led to the suspicion of a pleural effusion. Exploratory puncture revealed the presence of pus, but it was noticed that it extended to no great depth, and that if the needle penetrated a centimetre further, only a red liquid due to pulmonary condensation was drawn off. On trying to evacuate with an aspirator only 20 to 40 grm. of pus were obtained. These characteristics were verified on autopsy. The posterior aspect of one of the lobes of the lung was found to be adherent to the parietal pleura by tough, yellow, false membranes. On separating these, they were found to limit, over an area varying from a five-shilling piece to the palm of the hand, a purulent exudation, about one to two centimetres thick. The periphery was formed of false membranes of coagulated pus, and the central part of pus more or less liquid but generally thick. The false membrane was often so tough that it remained adherent in parts to the parietal pleura. In a word the collection of pus formed a cake (*en galette*) on the surface of the lung. This form of pleurisy is sometimes curable by simple puncture.

Quartan Fever in a Boy, aged 13 years.—MM. NOBÉCOURT and PAISSEAU reported the case of this kind in which the temperature, taken every four hours, showed the existence of a regular quartan ague; the spleen was enlarged. Hæmatozoa found in the blood. The attacks of fever were cut short by quinine in one grammé doses. In thirteen days nine grammes were taken.

Topography of Pneumonia in Children.—MM. WEIL and G. MOURIQUAND read a paper on the localisation of pneumonia in children, and concluded that this disease was most benignant when limited to the right

apex, and that on the contrary the most serious cases were basal, since they were complicated in nearly 30 per cent.

Scarlatinal Streptococcic Meningitis.—MM. G. WEILL and J. CHALIER (of Lyons) reported the case of a boy, aged $7\frac{1}{2}$ years, attacked with scarlet fever of a benign type. The fever fell rapidly; the eruption was of short duration and scanty; desquamation early. The course seemed favourable until the sixteenth or seventeenth day, when a suppurative cerebro-spinal meningitis supervened. Marmorek's polyvalent serum was used without avail.

Ichthyosis and Thyroid.—MM. MARCEL FERRAND and C. ROBERT related two cases, aged 9 years and 5 years, treated with thyroid for three months consecutively. No appreciable modification in their condition was observed. With the exception of cold extremities and dry hair there were no other signs of thyroid insufficiency.

Congenital Jaundice due to Malformation.—MM. FERRAND and ROBERT reported the case of a girl, who died, aged 5 months, with jaundice which began about three weeks after birth. There was a marked arrest of development in the biliary passages; all the upper portion, gall-bladder, cystic duct, hepatic duct and first portion of the bile-duct was absent and replaced by a narrow fibrous strand. The bile-duct, in the part which remained, was empty and less developed than normal. The intra-hepatic bile-ducts were rudimentary. There was fatty degeneration of the liver with pigmentary staining and commencing biliary cirrhosis.

A Case of Atypical Mumps.—M. NATHAN related the case of a boy, aged 9 years, who had no other disturbance than a slight coryza, followed two days later by pain in the ear, which was rapidly cured by Politzer inflation. There was no change in the parotid or submaxillary glands. Twenty-seven days later the sister of this child and two young friends who had played with him were attacked with definite mumps.

VINCENT DICKINSON.

Abstracts from Current Literature.

Medicine.

On acute pyelitis due to *Bacillus coli* as it occurs in infancy ('*Quart. Journ. of Med.*, April, 1910, p. 251).—This paper is written by **John Thomson**, and with it are incorporated pathological reports by **Stuart McDonald** on two fatal cases of pyelo-nephritis. When a child's urinary tract is invaded by *Bacillus coli* four things may occur clinically: (1) *Simple bacilluria*: Acid urine, with perhaps an offensive smell, containing *Bacillus coli* in large amount but no pus; no subjective symptoms, except enuresis or an increased frequency of micturition. (2) *Cystitis*: Numerous pus cells and *Bacillus coli* in acid urine; increased frequency of micturition with, sometimes, a slight degree of dysuria; little or no rise of temperature, and no general illness or distress. (3) *Pyelitis*: A similar state of the

urine, with a high remittent type of temperature, which is often ushered in by shiverings or rigors, and, in most cases, serious general disturbance and great distress. (4) *Suppurative nephritis*: A similar condition of the urine, but with more albumin and some tube-casts; severe general symptoms with more cachexia than in uncomplicated pyelitis, resulting in extreme exhaustion, and, if the kidney affection is extensive, in death.

The paper is based upon a study of twenty-five cases. Presumably the *Bacillus coli* is derived from the patient's own bowel. The question whether, in any particular case, the bacilli have passed from the bowel to the pelvis of the kidney directly through the bones, or have been carried there by the blood-stream, or whether they have spread upwards from the outside by way of the urethra, bladder, and ureters, is difficult to answer. Any of these three routes, or some combination of them, may be taken. When one side is much more affected than the other it certainly seems to be in favour of the view that the disease has spread upwards from below. This is also supported by the fact that twenty-one of the cases out of twenty-five were girls. With regard to predisposing causes the weakening influence may sometimes be of the nature of a chill; possibly some chemical change in the urine may have occurred. The histories of the cases are not enlightening on this point. Three certainly, and probably five, were suffering from infantile scurvy, three at least from severe dyspepsia and diarrhoea, and others from a lesser degree of indigestion; one had profound anaemia and one otitis media. In three cases the symptoms set in about a month after an influenzal attack. Eleven were said by their mothers to have been in good health when the symptoms set in.

The age of the patients varied from one to twenty-one months, the majority being between three and nine months. Twenty-one were females. The children were usually bottle-fed, but in two cases they were on the breast, and two others on both breast and bottle. In most of the cases the hygienic surroundings were quite satisfactory, and in fully one half they were the children of very well-to-do people. The season of the year made no difference, as cases occurred in every month except August.

Symptoms.—The general symptoms are extremely severe: there is nothing distinctive, however, except a little pus in the urine. The temperature often reached 104° F. or higher and assumed a remittent type, remaining so in untreated cases for many weeks, or relapses occurred with intervals of a few days' normal temperature. Under proper treatment the temperature fell by crisis in a few days. In rare instances there was a relapse some weeks or months later. At the onset a noticeable shiver occurred in five, a well-marked rigor in ten, and a distinct convulsion in two. In two of the cases the children had suffered from recurrent attacks of faintness with general rigidity, but with no shivering. The children were drowsy and often delirious; respiration was quickened, and they usually vomited. The blood showed some degree of leucocytosis, 16,000 to 26,000 per c.mm. The local symptoms were usually slight: sometimes frequent micturition, or slight dysuria, and occasionally tenderness over one or other loin. The localisation of tenderness was extremely difficult, owing to the child's general sensitiveness. Vulvitis and vaginitis were never observed.

The clinical points about the urine are: (1) At the time the temperature first rises no pus is often (perhaps ever) to be found in the urine. It always appears within a few days. (2) The pus may, at a later stage, disappear from the urine for a day or two, and then reappear. This is

probably due to one ureter being mainly affected at the time and to its having become temporarily blocked while the other remains patent. (3) Although the urine is acid on passing, it tends rapidly to become alkaline on standing. One is apt, therefore, to be misled if one tests the reaction of urine which is not freshly passed.

Diagnosis rests on two things: (1) The presence of pus in the urine, along with the severe general symptoms already described; and (2) the absence of any ascertainable disease of other parts sufficient to account for these severe symptoms. This last is important, as acute pyelitis is often mistaken for meningitis.

Treatment.—The main indications are two: The first is to ensure a copious discharge of urine, which is effected by giving fluid freely, by the mouth if possible, and, if not, by the rectum (saline enemata). The other is to render the urine alkaline on passing and to keep it so for a time, by administering potassium citrate or some other alkaline remedy. The author begins with 48–60 gr. of potassium citrate, and increases it to 120, 150, or even 180 gr. in the twenty-four hours if the urine remains acid. The urine usually becomes alkaline in four or five days. The effect of the alkaline treatment on the case can be best appreciated by looking at the temperature chart. It is advisable to keep the bowels open, and for this phosphate of soda is probably best, as it tends to render the urine alkaline. It is a question whether antiseptics are of any use, but generally speaking, the improvement under potassium citrate is so steady and satisfactory that nothing else seems to be necessary. For the same reason bacterio-therapy does not seem to be required.

Prognosis.—Of the twenty-five cases twenty-one recovered, and three died from the disease spreading to the kidney, and one of abdominal tuberculosis. The risk of a fatal extension from the pelvis of the kidneys occurring, especially when treatment has not been sufficiently prompt and thorough, is worthy of more attention than it has received. The author, therefore, concludes with an account of the symptoms and post-mortem appearances of two cases of pyelo-nephritis.

JAMES E. H. SAWYER (Birmingham).

Eighty consecutive cases of wasting infants fed on undiluted citrated milk (*Proc. Roy. Soc. Med.*, vol. III, 1910 [Section for Study of Disease in Children], p. 103).—**Frederick Langmead**.—The method of modifying cow's milk by the addition of sodium citrate was first introduced by Sir Almroth Wright, and obtained practical recognition as the result of the writings of Dr. Poynton. Whole milk was recommended originally by Sir Almroth Wright, but most practitioners had hitherto followed Dr. Poynton and combined citration with dilution. Dilution, however, carries with it certain disadvantages. First, it increases the bulk of the meal and thus the likelihood of dilation and atony of the stomach. Secondly, there is need to add cream and sugar, in amount varying with the dilution employed. This increases the expense, and further, most samples of cream contain preservatives, often in deleterious amounts. Thirdly, the complexity of the method often supplies too great a task for the mother, entailing as it does a knowledge of the dilution suitable for each month. Fourthly, dilution only, without citration, often leaves the chief source of digestive disturbances—the toughness of the curd—untouched. The paper deals with the results of the administration of *undiluted* citrated milk in wasting infants. Each baby was weighed before the treatment was started and at each subsequent attendance, whether at

weekly, fortnightly, or longer intervals, and a chart was kept on which the weights were duly recorded. No hard and fast rule was followed as to the amount or frequency of the feeds, but they were adjusted to the needs of the baby. Two grains of sodium citrate in a watery solution were added to each ounce of milk, and the milk was brought to the boil. One of the chief advantages of citrated whole milk is its simplicity, and thus much manipulation, with its attendant risks and mistakes, is avoided. The disadvantages of dilution—the bulkiness of the feed, the complexity of the monthly variations, the dangers of artificially preserved cream, or of giving too little fat, are all evaded. There is no danger of scurvy. It more readily agrees with the infant's powers of digestion than diluted milk. *Analysis of cases:* Eighty consecutive cases are comprised in this paper. At the first attendance the age varied from three weeks to four months. The previous feeding had been by the breast, by cow's milk and barley-water, and by many different kinds of patent foods. All were wasting when first seen and many were very puny and marasmic. Four weighed under 5 lb., their ages being 3, 4, 8, and 10 weeks respectively. Ten others weighed under 6 lb., their ages varying from five weeks to three months; all weighed below the average. The results were very gratifying. All gained in weight. One died of epidemic diarrhoea, after having progressed favourably. In one case only was this method of feeding supplanted by another. It was that of an infant who had thrush, and the mother stated that condensed milk only was retained. Three were the subjects of rickets. One of these had rickets before coming under treatment, and one had also syphilis, hernia, and phimosis. The remaining seventy-five were all well and healthy when last seen. There was no case of gastro-intestinal disturbance apart from zymotic diarrhoea (in five cases) sufficiently severe to produce loss of weight.

AUTHOR'S ABSTRACT.

Roseola infantilis ('*Pediatrics*,' xxii, 1910, p. 60).—J. Zahorsky.—In the older works on pediatrics many different eruptions were confused together under this title which of late has fallen into desuetude. Zahorsky wishes to apply it to a non-contagious febrile erythema, morbilliform in character, but without catarrhal symptoms beyond slight faucial congestion, and not followed by desquamation or any sequelæ. All his cases occurred in children under two and a half years. The fever is usually high, but falls by crisis on the third or fourth day when the rash appears. The eruption is most marked on the back, buttocks and thighs, less on the face, and disappears in twenty-four to forty-eight hours. It most closely resembles German measles, from which it is distinguished by the longer duration of the prodromal period, the slight degree of glandular enlargement, and the absence of contagiousness.

J. D. ROLLESTON.

Cerebral tumours in children ('*Pediatrics*,' xxii, 1910, p. 191).—H. N. Read.—These are by no means rare. They are seldom found before the first six months of age, but are most frequent during the first decade. Fifty per cent. are tubercular, and then follow in order of frequency—glioma, sarcoma, cysts, carcinoma, glio-sarcoma, angio-sarcoma, myxo-sarcoma, papillary epithelioma, and gumma (Peterson). Boys are twice as frequently affected as girls. Tubercular tumours are nearly always secondary to a deposit elsewhere. The same applies to carcinoma and sarcoma. Cysts are either due to the echinococcus or *cysticercus*, or follow a hæmorrhage or embolic softening. Gumma in childhood is very rare. The symptoms and treatment

are much the same as in adults. Read records a case in a boy, aged 13 years, whose mother had died of pulmonary tuberculosis. The symptoms pointed to a tumour of the left side of the crus and pons. Von Pirquet's reaction was negative, and vigorous antisyphilitic treatment was adopted. Improvement took place after ten days' mercurial inunction, but headache and vomiting persisted for two months. Finally, there was complete recovery.

J. D. ROLLESTON.

The Chicago Juvenile Court (*Arch. of Pediat.*, xxvii, 1910, p. 81).—**F. S. Churchill** and **J. A. Britton** deal with the medical aspects of this institution, whose object it is to deal with delinquent and dependent children, the latter being those who have no proper home care. The paper is based on the study of 2758 children, 1550 of whom were delinquents, and 1208 dependents. The dependents comprise children from three to eleven years, and the delinquents from twelve to sixteen years inclusive; 862 of the dependents were boys and 346 girls, and 1409 of the delinquents were boys and 141 girls. During the first few years there is little difference in physique between the court boy and the normal, but at four or five he becomes inferior in weight and chest capacity and after the eighth year in height as well. The court girls are slightly below normal in height and weight, but of greater chest capacity from the first until their sixteenth year. They then present a sharp rise in the weight curve and their height becomes equal to the normal. All the girls at this age are delinquents, their superior physique and attractiveness probably contributing to their delinquency. All the children of both groups were remarkably free from organic disease. A considerable number had enlarged tonsils and adenoids, carious teeth, and enlarged cervical glands. Diseases of the ear occurred in 45 per cent. and about one sixth had eye troubles. Gonococcus infections were limited to the girls, in whom they were found in about 35 per cent. and almost exclusively in the delinquents. Only one case of syphilis, in a boy, aged 15 years, was noted among the 2758 examined. J. D. ROLLESTON.

Pneumococcal angina at the onset of scarlet fever (*Tribune Médicale*, 1909, p. 581).—**Lafforgue**.—This phenomenon is usually independent of any other pneumococcal localisation, especially broncho-pneumonia, and does not add to the gravity of the prognosis. Three forms are described: (1) Phlegmonous; (2) erythematous-pultaceous; (3) membranous. Lafforgue records three illustrative cases to show that streptococcal infection of the throat is not an indispensable accompaniment of scarlet fever. In two of the cases there was extensive labial herpes. J. D. ROLLESTON.

Typhoid fever in children (*Gaz. des Hôp.*, 1910, p. 344).—**L. Babonneix** records nine interesting cases: (1) Boy, aged 7½ years. Typhoid associated with tuberculosis. (2) Girl, aged 4½ years, with meningeal symptoms and spinal lymphocytosis. A few days after the diagnosis of tuberculous meningitis had been made, improvement took place and a positive Widal was obtained. (3) Boy, aged 11 years. Severe and prolonged relapse with intestinal hæmorrhage and arthritis of hip-joint. (4) Endocarditis in girl, aged 14 years (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, p. 85). (5) Pneumo-typhoid in boy, aged 12 years. (6) Boy, aged 7 years. Hæmorrhage followed by perforation, verified at autopsy. (7) Boy, aged 15½ years. Two sudden and unexplained falls of temperature, one of which was accompanied by vomiting of green fluid. (8)

Boy, aged 9 years. Typhoid associated with tuberculosis. (9) Girl, aged 13½ years. Superficial ulceration of the cheek, cured by application of methylene blue.

J. D. ROLLESTON.

Mild scarlet fever followed by a fatal relapse (*Arch. de méd. et de Pharm. Milit.*, LV, 1910, p. 103).—**Nicolas**.—A young soldier had a mild attack of scarlet fever. The temperature became normal on the fifth day, and he was allowed up on the twenty-fifth day. Three days later, while the hands and feet were desquamating, a relapse occurred with all the symptoms of scarlatina anginosa. Death took place on the thirteenth day of the relapse.

J. D. ROLLESTON.

Auto-inoculation of vaccinia (*Arch. f. Kinderheilk.*, LII, 1909, p. 123).—**L. Wolfer** records two cases. The first was a girl, aged 8 years, vaccinated twelve days previously, in whom aberrant lesions which at first suggested syphilis were situated on the external genitals, perinæum and anus, as well as on the terminal phalanx of the left index finger. The inoculation was probably due to the girl scratching herself owing to the irritation caused by worms, the ova of which were found in the stools. The second case was in a girl, aged 5½ years, in whom the lesions had a similar causation and distribution. Difficulty in micturition was a prominent symptom in both cases. Such disagreeable complications of vaccinia which afford a welcome weapon to the anti-vaccinationist, may be avoided by warning the parents to prevent their recently vaccinated children touching the lesions on their arms.

J. D. ROLLESTON.

The stools of the new-born (*Arch. of Pediat.*, XXVII, 1910, p. 167).—**T. S. Southworth** criticises the text-book descriptions, according to which, after a period varying from three to five days, the meconium is replaced by the classic yellow or orange-yellow stools of uniform semi-solid consistency, departures from which type indicate disturbance of the infant's digestion or a deficient or unsuitable mother's milk. According to Southworth's observations the meconium stools persist for three or four days, and are followed by bile-tinged mucoid intestinal secretion, which may be dark brown or brown-yellow, but are much more commonly dark green. About the sixth day yellow stools are the exception rather than the rule, but the majority are greenish-yellow and more or less fluid, gradually gaining in consistency, and only at a later period, which varies considerably, becoming yellow. The green stools of the transition period bear no relation to summer diarrhoea, with which they are often confounded, and the child consequently subjected to unnecessary medication. Southworth insists on the fact that many infants make satisfactory progress in weight with atypical stools.

J. D. ROLLESTON.

Accidental vaccinia (*Berlin. klin. Woch.*, 1910, p. 133).—**A. Géronne** records a fatal case of accidental vaccinia in a hitherto unvaccinated girl, aged 2 years, suffering from eczema, who had been inoculated by her recently vaccinated brother. Generalised vaccinia developed. On the fourteenth day of disease, as the lesions were desiccating, symptoms suggestive of meningitis occurred, though the cerebro-spinal fluid was clear, and death took place on the sixteenth day. The autopsy showed diffuse punctiform hæmorrhages in the cerebral meninges and cortex and numerous thrombi in the sinuses. Blochmann in 1904 collected twenty cases of accidental vaccinia in unvaccinated children suffering from eczema. Six died, and one completely lost

the sight of the right eye. The reasons for the unusual severity of accidental vaccinia in eczematous children are as follows: (1) The patients are unprotected by a previous vaccination. (2) The humanised lymph with which they are inoculated is more virulent than calf-lymph. (3) More lymph is used in accidental than in ordinary vaccination. (4) The lymph inoculated into the eczematous area reaches the circulation quicker than when the insertion is made in the ordinary way in the healthy skin. To avoid the possibility of accidental vaccinia parents should be warned of the danger that vaccinated children are to those with whom they come in contact, especially unvaccinated children suffering from skin eruptions.

J. D. ROLLESTON.

Clinical significance of curds in infants' faeces (*Boston Med. and Surg. Journ.*, February 3, 1910).—Talbot states that large tough curds are usually solid. When shaken up in cold water they sink, and thus can be easily separated out. They are composed of casein, which on coagulation contains the milk fat in its meshes, the amount varying with the percentage of fat in the milk. These curds pass through the alimentary canal practically unchanged, being digested only on their surface. Most of the fat is an unchanged neutral fat, and only a very small amount is split up into fatty acids and soap. Small, soft curds appear as white flakes or pin-head masses, and are suspended when shaken up in cold water. Most of them consist of fatty acids and soap, and contain very little protein. In cases of doubt whether the curds are fat or casein, they may be placed in 10 per cent. formalin, and allowed to stand for four to six hours. The casein will then be very hard and the fat soft. The presence of either curd is of importance as indicating that the fat or casein is not properly assimilated, and the food should be regulated accordingly. Whenever either of these foods is diminished the other should be increased, so that the caloric equivalent may be maintained. Tough curds are never seen in the stools of breast-fed infants.

T. R. WHIPHAM.

The fate of cases of chorea minor after fifteen to twenty years (*Jahrb. f. Kinderheilk.*, January, 1910).—Forssner gives the after-states of twenty-eight cases of chorea minor in children, and begins by suggesting that chorea attacks children having a weak constitution. Of the twenty-three children who survived to the age of fifteen years, fourteen present some chronic constitutional disease, such as tuberculosis, exophthalmic goitre, nephritis, or some gastric affection, none of which is a complication of chorea. In five cases there are signs of heart disease, and seven patients have died early from some cardiac lesion. Only one of the children is in good health, notwithstanding a recurrence of the chorea and an attack of acute rheumatism a year later. It is remarkable that this case is the only one which has reached the age of fourteen years. On the other hand, among thirty-five children who had suffered from articular rheumatism, only four have developed constitutional disease; seven have died from heart disease, and three from some intercurrent affection. Twenty-one are in good health.

T. R. WHIPHAM.

Congenital word-blindness (*Pennsylvania Med. Journ.*, January, 1910).—McCready reports the case of a man, aged 20 years, who had enteritis in infancy and pneumonia with cerebral symptoms at the age of four years. The family history was negative. From the time he first went to school he had

great difficulty in reading, and began to stutter after a fright at the age of ten. He could recognise letters and numerals, but very few words; otherwise he is of average intelligence. After the correction of the speech defect attempts were made to develop the visual word centre in the right hemisphere, and to establish a functional relationship between it and the auditory word centre, as well as Broca's centre in the left. His improvement has been satisfactory. Forty-one cases of this condition have been reported, but many others have doubtless occurred. Heredity appears to play a part, and some cases have shown evidence of a neurotic tendency. With the exception of the visual defect nearly every case was of the average or above the average intelligence.

T. R. WHIPHAM.

Treatment of tuberculosis in children with large doses of tuberculin (*'Deutsch. med. Wochens.,'* February 3, 1910).—Neumann has tested the tolerance of children for large doses of tuberculin, and asserts that they can stand much larger doses than has hitherto been supposed. He considers that the local reaction to subcutaneous injection is the best test of the effects of the treatment, and does not increase the dose until the local reaction has subsided. The local reactions may continue with the same dosage after the temperature has ceased to rise, or they may be marked when there is no temperature reaction. At first the infiltration persists for a week or more, but as the reaction diminishes it becomes more and more transient, and disappears within a few hours. He defers increasing the dose until the local reaction is slight. He describes the case of a boy, aged 4 years, in which he began with 0.0001 grm., and increased the dose to 0.5 grm. in six months, with excellent effect. The intervals between the injections were from one to six or more days. Great caution, however, must be observed in cases in which the focus is in the neighbourhood of the central nervous system. In certain cases the dyspnoea is much alleviated, and this is ascribed to the reaction of tuberculous bronchial glands.

T. R. WHIPHAM.

Facial reflex in childhood (*'Wien. klin. Wochens.,'* February 3, 1910).—Sperk finds that the isolated sudden spasm on tapping one side of the face (Chvostek's sign) is rare during infancy, but occurs more frequently between the ages of five and fourteen years, the frequency increasing with the age. The phenomenon is undoubtedly connected with tetany in many cases. The patients are mostly delicate and nervous, and present other signs of nervousness, such as exaggerated knee-jerks and diminution or absence of the corneal and throat reflexes.

T. R. WHIPHAM.

Whooping expiration as a symptom of tuberculosis in early life (*'Wien. klin. Wochens.,'* February 3, 1910).—Schick and Sluka remark on the whooping nature of expiration in infants, who later develop signs of tuberculosis. Of thirty-six children in whom this characteristic was noted, twenty were between two and four months old, and the others between four and ten months. Seven of the children are living, and seven have been lost sight of; the others have died. In five other children between the ages of one and five years the sign was caused by pneumo-thorax or compression of the air-passages from different causes. The writers regard it as a valuable diagnostic sign of tuberculous bronchial glands in early infancy. It excludes

other affections which might suggest tuberculosis, such as croup, asthma, and bronchitis, in which the whoop occurs during inspiration as a rule.

T. R. WHIPHAM.

Peculiar hereditary anomaly of the hair and nails (*Bulletin de la Soc. de Méd. de Rouen*, 1903).—**Hebert** and **Halipré** give an account of a girl, aged 12 years, who came to hospital on account of impetigo of the face. Her general condition was normal, but the hairs of the eyebrows were very scanty and entirely colourless. The eyelashes were scanty and of a light colour, and the irides were blue. The skin of the forehead, chin, and upper lip were covered with a few downy hairs, but the cheeks were smooth. The hairs of the head were scanty, only about 2 cm. long, and very small and white; they could be easily extracted, even in tufts, without breaking. The hairs on the vertex and on the part adjoining the forehead were thinner than on the rest of the scalp. The occiput and the parts around the ears showed only scanty down. There was no hair on the rest of the body, except some down on the pubes and the lower part of the abdomen. The terminal phalanges of both the hands and feet were clubbed, and the nails were hypertrophied, being much thicker than normal, smooth and friable at the ends, and presenting irregular striations. These peculiarities could be traced back to the sixth generation. Altogether, among eighty known descendants fifty-two have been affected—twenty-eight males and twenty-four females—and so far the affection has never skipped a generation. In some families all the members have been attacked, in others the boys only, while in others only one child of two or three, independently of sex. The heredity appears to be governed by no law, and there is no ground for supposing that syphilis or leprosy is an aetiological factor.

T. R. WHIPHAM.

Death from lumbricoid worms (*Old Domin. Journ. of Med. and Surg.*, February, 1910).—**Hazen** saw a girl, aged 8 years, who had been sickly and thin from her infancy, and had always had a voracious appetite. Suddenly she became ill, and in a few hours passed into a comatose state, from which she could be only partially roused. Death occurred five days later. During the first two days the urine was scanty, and on the second day she passed two large worms after a dose of calomel and a saline enema. The diagnosis being uncertain rectal injections of saline solution were given every three hours, and strychnine was administered hypodermically as required. After several saline injections an enormous quantity of worms of all sizes was passed, and on the fourth day worms were discharged by the mouth as well. Death was probably due to toxæmia from products of the parasites. No anthelmintic drugs were given because of the intoxication and depression.

T. R. WHIPHAM.

Myatonia congenita of Oppenheim (*Amer. Journ. of the Med. Sciences*, March, 1910).—**Haberman** reports three cases presenting certain points in common—an extensive apparently flaccid paralysis and absence of patellar and Achilles' reflexes. In one there is vaso-motor disturbance, and in other slight atrophy, which, however, is marked by adiposis. Thus far the cases suggest anterior poliomyelitis, but the fact that two, and probably all, are congenital refutes this view, as congenital anterior poliomyelitis appears not to exist. Further, there is no actual degenerative atrophy showing the reaction of degeneration, but rather an extreme condition of muscular atony. The condition is a congenital atonic pseudo-paralysis, which is met with in

the first two or three years of life, when the reflexes are weak or even absent, and the electrical reaction reduced, but never degenerative. There is no sensory impairment, nor bladder and rectal troubles.

T. R. WHIPHAM.

Hæmophilia: arrest of hæmorrhage by means of peptone ('*Rev. de Méd.*,' February, 1910).—**Nolf** and **Herry** report that in nine cases of hæmophilia hæmorrhage was arrested by the injection of 10 c.c. of a 5 per cent. solution of peptone in a .5 per cent. solution of sodium chloride. In certain cases two injections were made as a prophylactic measure ten and two days respectively before a major operation. In one case hæmaturia was checked by one injection, but the patient died from hæmatemesis a year later. The patients varied between childhood and old age, and a single injection was sufficient in nearly every case. Peptone is more efficacious and more easily sterilised than serum, and heating to 120° C. for an hour does not alter its properties. For local application an extract of lymphoid organs—spleen, lymph-glands, and thymus—seems to be as effectual as fresh serum. The extract is made by triturating the organs with a little sand, adding one part of the gland to two parts of a .09 per thousand sodium chloride and .5 per thousand calcium chloride solution, and then straining. The action and effect of the peptone seems to be identical with that of fresh serum, but more pronounced.

T. R. WHIPHAM.

Spasmodic paraplegia of congenitally syphilitic origin in a child ('*Ann. de Méd. et Chir. Inf.*,' February 1, 1910).—**Marfan** describes the case of a boy, aged about 9 years, who could only walk very slowly without support, both lower limbs being markedly spastic. No ataxia was present. When reclining the paraplegia was less marked, and passive movements of the joints were possible. The reflexes were exaggerated, and the presence of Babinski's sign indicated that some lesion was present in the pyramidal tract. There were no sphincter disturbances or trophic lesions, but there were Argyll-Robertson pupils, and the child was mentally backward. The trouble is probably due to congenital syphilis, but the fact that treatment was not commenced until fifteen months after the onset of the symptoms accounts for the lack of improvement. The diagnosis was confirmed by the subsequent development of interstitial keratitis, which cleared up under specific treatment. The affection resembles syphilitic spinal paralysis in adults, except that the sphincters do not seem to be affected.

T. R. WHIPHAM.

Four cases of congenital acholuric (so-called "hæmolytic") jaundice in one family ('*Lancet*,' January 22, 1910, p. 227, and '*Folia Hæmatologica*,' 1910, vol. ix, Part i, p. 518).—**F. Parkes Weber** and **G. Dorner** describe the cases of Charles T—, aged 53 years, his married daughter aged 32 years, another daughter aged 14 years, and a son aged 12 years. They are all fairly well nourished and normally developed in body and mind. There is nothing of the infantilism sometimes associated with Hanot's chronic biliary cirrhosis in children. The father of Charles T—, who died at the age of 70 years, is said to have been jaundiced all his life. In all four patients the jaundice appears to have been congenital, the degree of yellowness varying from time to time. Charles T— says that he is yellower in winter than in summer, and that he feels weak and depressed during the exacerbations of the jaundice. His married daughter says that

her jaundice was increased during every pregnancy and whenever she caught cold. In none of the cases has there been any icteric pruritus or any xanthomatous change in the skin, such as is so often present in cases of chronic obstructive jaundice. There is no clubbing of the fingers. The spleen can be felt abnormally hard below the costal margin and is decidedly enlarged in all four cases, but the liver is slightly, if at all, enlarged. There is no history of biliary colic. The fæces are normally coloured (rich in urobilin in the specimens examined), but Charles T— says that on one occasion during an exacerbation of jaundice his motions became temporarily colourless. The urine is of rather high colour, generally free from bilirubin, but always containing abundance of urobilin and urobilinogen. The condition of the lungs, heart, and blood-pressure appears normal. In all four cases Wassermann's reaction for syphilis gave a negative result. In all four cases the blood shows the characteristic features of chronic hæmolytic jaundice. These features may be summed up as follows:—Bilirubin is always present in the blood-serum and blood-plasma. There is nearly always some (though often very slight) anæmia, and the degree of this anæmia may vary considerably from time to time. The red cells are mostly fairly normal in shape—that is to say, there is seldom much poikilocytosis—but in size they usually vary very much more than those of normal individuals, so that there is a condition of decided "anisocytosis" present. The mean diameter of the red cells is often somewhat less than that observed in normal persons, whereas in cases of chronic obstructive jaundice the mean diameter of the red cells is generally distinctly above the normal mean for healthy individuals. Polychromatophilia and (generally) punctate basophilia of red cells are observable to a greater or less extent, and the frequent presence of nucleated red cells (normoblasts) is characteristic. The red cells are found to undergo hæmolysis, when added to graduated weak saline solutions, more readily than do the red cells of ordinary healthy persons, and still more readily than those of individuals suffering from obstructive forms of jaundice. It is highly probable that in cases of congenital chronic acholuric ("hæmolytic") jaundice the occasional exacerbations of the symptoms are sometimes accompanied by a certain amount of actual obstruction to the bile-flow (due to a temporary catarrhal condition or to increased bile-viscosity). Thus, a mild form of obstructive jaundice may occasionally complicate the ordinary symptoms of the disease, and may account for the temporary appearance of bilirubin in the urine and disappearance of colour from the fæces.

AUTHOR'S ABSTRACT.

Pathology.

Congenital absence of the gall-bladder (*New York Med. Journ.*, February 12, 1909).—**Hoffman** and **Jackson** report a case in which the gall-bladder was absent. The common duct ran from the intestine into the liver-substance, passing through the normal position of the gall-bladder, where it was wide and tortuous. On tracing its course the duct was seen to divide and subdivide, and one of the subdivisions was found to lead to a round mass in the left lobe of the liver, near the œsophagus, which was an abscess containing about three ounces of greyish pus and some degenerated material. The walls of the abscess were ragged and fibrous. The opening of the common duct into the duodenum measured 2 cm., and at the level of the pancreas the canal had twice that diameter.

T. R. WHIPHAM.

Otology, Laryngology, and Rhinology.

Pneumococcal membranous laryngitis in measles (*Bull. de la Soc. de Pédiat.*, 1909, p. 337).—**Triboulet, Harvier, and Perineau**.—A boy, aged 3 years, was seized with dyspnoea on the fifth day of a mild attack of measles. Tracheotomy was performed, and a large piece of membrane was coughed up. Two days later death occurred, preceded by signs of double broncho-pneumonia. Autopsy: Edges of tracheal incision covered by greyish exudation. No membrane in larynx, trachea, or bronchi. Symmetrical oval ulceration of aryteno-epiglottic folds. Double broncho-pneumonia. Bacteriological examination of the membrane showed no diphtheria bacilli, but virulent pneumococci. J. D. ROLLESTON.

Surgery.

Tetanus from infection of the cavity of a tooth (*Med. Record*, February 19, 1910).—**Luckett** saw a case of tetanus in a child, aged 10 years, who had very badly decayed teeth. No other lesion was found through which the organism could have gained entrance. Cultures and inoculation of animals showed that tetanus germs were present in the tooth-cavity. T. R. WHIPHAM.

Prolapse of the rectum (*Archiv f. Klin. Chir.*, vol. xci, No. 3).—**Beresnegowsky** has studied on the cadaver the factors which predispose to prolapse of the rectum and its mode of development, and suggests a method of effectual operation by strengthening the pelvic floor. An incision is made on either side of the anus at an acute angle with it, and without involving the sphincter. A flap of muscle from the gluteus maximus on one side is inserted across the perinaeum, the object being to form an adequate support in this situation. The writer describes a case in which the operation was successfully performed. T. R. WHIPHAM.

Umbilical hernia containing all the abdominal viscera (*Journ. of Indiana State Med. Assoc.*, January, 1910).—**Eastman** saw a case of a female infant with an umbilical hernia covered by only a peritoneal coat, which, though thickened, was sufficiently transparent to allow the contents to be seen. Two days after birth an attempt was made to reduce the hernia, but it was found that the organs were for the most part firmly adherent, and that replacement was impossible, the abdominal cavity being much smaller than the sac. In the sac were the liver, gall-bladder, spleen, pancreas, stomach, most of the large and small intestines, and the bladder. The sac itself measured 17.5 cm. in diameter. The child died on the fifth day. T. R. WHIPHAM.

Strangulated hernia in an infant of four months (*Journ. of Amer. Med. Assoc.*, March 19, 1910).—**Hopkins** reports the case of a male infant who had been bottle-fed after the first two weeks. The feeds consisted of three parts milk to one of water, and were given irregularly, with the result that the child became constipated and suffered from colic. Proper feeding was prescribed, but not persisted in. During the fourth month a bubonocoele appeared on either side, both of which were easily reducible. One day, however, the hernia on the left side was found to be strangulated. A Bassini's operation was performed with excellent results. T. R. WHIPHAM.

Malformation identical in both arms (*'Amer. Journ. of Obstet.,' February, 1910*).—**Stockard** describes a case in which the same malformations occurred in both arms. The elbow-joints were fixed in a flexed position either from ankylosis or some abnormal structure, while a loose fold of skin stretched from the upper arm to the forearm. In the forearms there was only one bone, apparently the radius. The carpal bones could not be clearly made out, but from the narrowness of the wrists it was supposed that only one or two existed. The hands were each represented by only one metacarpal bone and one two-jointed digit, presumably the thumbs. The point of interest is that both arms present exactly the same condition.

T. R. WHIPHAM.

Colopexy for prolapse of the rectum (*'Rev. de Chir.,' February 10, 1910*).—**Quénu** and **Duval** advocate colopexy as being superior to other methods for correcting congenital prolapse of the rectum. When the prolapse is of perinaeal origin suture of the levator muscles, combined with recto-syndesmopexy, should be undertaken. By means of colopexy the pouch of Douglas is obliterated, and then by means of a row of sutures the pelvic colon is fastened to the posterior aspect of the bladder, and to the left pelvic peritoneum and the iliac peritoneum.

T. R. WHIPHAM.

Stenosis and atresia of the alimentary tract with imperforate anus (*'Journ. of the Amer. Med. Assoc.,' February 26, 1910*).—**Goosman** saw a male infant with imperforate anus. Twelve hours after birth vomiting commenced, arousing a suspicion that an occlusion might exist in the upper part of the alimentary tract. The vomit was bile-stained, and sickness continued at frequent intervals until the time of death, sixty hours after birth. At the post-mortem the rectum was found to end blindly three quarters of an inch from the surface. The contents of the bowels were greyish-white and flaky, unlike meconium. About two inches above the rectum the large gut was occluded, and the stomach showed an hour-glass contraction, which only allowed the passage of a good-sized probe. The author remarks that if the child had been operated upon the rectum would have been easily found, and the absence of meconium would have led to a search for the atresia higher up. The presence of meconium, however, does not exclude the possibility of atresia higher up, as, according to Kuliga, intestinal atresia is comparatively late in development, and occurs after bile secretion has commenced. As to the ætiology, there were no signs of adhesions, peritonitis, or bands, and the condition may be explained on Kreuter's theory, that after the alimentary canal has been formed a rapid growth of the lining-cells occurs, which ultimately causes an obliteration of the lumen. After a short period in this condition the rapid growth of the bowel wall causes a complete re-establishment of the lumen. Kreuter believes that all these cases are due to the lumen remaining obliterated.

T. R. WHIPHAM.

Method of opening the mastoid antrum (*'Ohio State Med. Journ.,' January, 1910*).—As a result of his experience from experiments on the temporal bone and from cases, **Iglauer** claims the following advantages for the method of opening the antrum through the meatus as the first step in the mastoid operation: (1) The proceeding is justified on anatomical grounds, as the anterior inferior wall of the antrum is very thin and no important structures intervene between the meatus and the antrum. (2)

The antrum can be easily and rapidly opened through the meatus, and the burr is kept in full view throughout the operation. (3) The exposure of the cavity of the antrum early in the operation gives valuable information as to the condition of the mastoid bone. (4) With the antrum thus fully exposed to view, the remaining steps of the mastoid operation are greatly simplified. (5) In cases in which there is a sinus running anteriorly it is often necessary to work from within outwards, and the direct method through the meatus does away with the necessity of introducing instruments into the middle ear, a proceeding not unattended with danger. (6) In cases where the simple operation has been performed healing may be accelerated if part of the posterior bony meatus be removed at the time of the operation. (7) The electric burr is a safe instrument in mastoid surgery as it is not liable to penetrate the dura mater, and it stimulates the facial nerve before endangering its integrity.

T. R. WHIPHAM.

Sarcoma of the uterus in a child (*Journ. of Med. Soc. of New Jersey*, April, 1910).—**Miningham** reports a case of primary sarcoma of the uterus in a child, aged 12 years. The tumour was of the small spindle-celled variety and contained areas of gangrene. Menstruation had not occurred, but a flow of blood took place which lasted for three weeks, and was attributed to the commencement of the catamenia. The girl complained of pain and discomfort in the pelvic region and gradually lost weight. Frequent hæmorrhages occurred for ten months when the flow became more or less constant. Curetting aggravated the condition, and septic absorption set in, the temperature being of a hectic type. A diagnosis of sarcoma was made and the uterus and adnexa were removed by the combined vaginal and abdominal operation, though the outlook was grave. An immediate improvement, however, occurred, and has continued without interruption.

T. R. WHIPHAM.

Traumatic œsophageal stricture (*Arch. of Pediat.*, xxvii, 1910, p. 132).—**G. W. Ross**.—Sixteen days after drinking some lye, which burnt her mouth and lips, as well as her œsophagus and stomach, a girl, aged 2 years, was unable to swallow anything whatever. Under chloroform a stomach-tube was inserted into the œsophagus as far as possible, and then a thick solution of subnitrate of bismuth forced in as the tube was gradually withdrawn. A skiagram was then taken which clearly showed the position of the stricture. Bougies of gradually increasing size were passed, at first every day, later every two or three days, and finally, once a week until the child was able to swallow quite well.

J. D. ROLLESTON.

A case of hypertrophied thymus with tracheal stenosis treated surgically in an infant, aged 4 months (*Lyon Médical*, April 10, 1910, No. 15, p. 797).—**MM. Weill, Pehu, and Chaliér** describe this case, brought to the clinic for "attacks" which, according to the mother, began with crying, then followed embarrassment of breathing, convulsive movements of the limbs, which became rigid; blueness of the face ensued while the breathing became increasingly difficult; there was vomiting and emission of urine during the attack, which lasted from a few minutes to a quarter of an hour. The attacks began when the child was a fortnight old and occurred at first four or five times a week; they then became more frequent, and latterly occurred five or six times daily. After admission during one attack a swelling the size of a nut was seen to come up from the thorax behind the

sternal notch. An operation was undertaken for the partial removal of the thymus but the attacks were not abolished; the child died six days later. At the autopsy the remaining part of the thymus weighed 15 grm. 25, which, together with 4 grm. 25 removed at the operation, made the total weight of the organ 19 grm. 50.

VINCENT DICKINSON.

Some remarks on the treatment of congenital dislocation of the hip-joint (*The Transvaal Med. Journ.*, February, 1908).—**Sthamer** strongly recommended Lorenz's method, and showed two children upon whom he had recently operated. He considers it advisable to control, and if necessary to correct, the position for two months after reduction. The plaster-of-Paris is removed at the end of six months, but the child should be kept for some weeks longer in bed. The best results are obtained with children under seven years, but good results may now be expected at a much older age.

M. D. EDER.

Reviews of Books.

PRAKTISCHE WINKE FÜR DIE CHLORARME ERNÄHRUNG (PRACTICAL HINTS ON CHLORIDE-POOR DIET). By Prof. Dr. H. STRAUSS, of Berlin. Berlin: S. Karger, 1910. Price M. 1.

THIS little book, the work of a well-known authority, contains some useful tables of the sodium chloride content of the more important articles of food, both in the raw and in the cooked state, as well as numerous recipes for the preparation of palatable dishes compatible with a salt-poor diet.

KURZGEFASSTES LEHRBUCH DER KINDERHEILKUNDE FÜR ÄRZTE UND STUDIERENDE (CONCISE TEXT-BOOK OF PEDIATRICS FOR PRACTITIONERS AND STUDENTS). By Dr. CARL SEITZ, of Munich. Third edition. Berlin: S. Karger, 1910. Price, paper, M. 13; bound, M. 14, 60.

No better proof of the importance of the study of children's diseases can be given than the fact that a text-book described as concise consists of a closely printed volume of 558 pages, among which numerous paragraphs in small type are freely interspersed.

Since the second edition, published in 1901, the author has found it necessary to re-write the chapters on the physiology and pathology of nutrition, those on infectious diseases including tuberculosis and syphilis, and on disturbances of internal secretion. Considerable changes have also been made in the rest of the work.

Special attention has naturally been devoted to the achievements of German workers, clear accounts being given of Finkelstein's alimentary intoxication, Czerny's exudative diathesis, and Heubner's chronic infantile nephritis.

The book in most respects is well up-to-date. Exception, however, must be made to the statement that there are no indications for surgical interference in congenital hypertrophic stenosis of the pylorus.

The work as a whole may be warmly recommended for its practical character, readable style, excellent print, and convenient shape.

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

VOL. VII.

SEPTEMBER, 1910.

No. 81.

Original Articles.

SOME ASPECTS OF VENEREAL DISEASE IN CHILDREN.

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By venereal disease in children must be understood infection of the child after birth with the virus of one of the venereal diseases. Simple chancre may be ignored, as it is exceedingly rare in children. The subject under consideration is thus reduced to acquired syphilis and gonorrhœa.

ACQUIRED SYPHILIS IN CHILDREN.

Acquired syphilis differs from congenital or inherited syphilis in the occurrence of a chancre. An infant may be infected (1) directly by a syphilitic wet nurse, by the promiscuous kissing to which infants are subject, or by playing with other infants suffering from congenital syphilis; (2) indirectly, through contaminated spoons, feeding-bottles, etc. Contagion from lesions on the mother's genitals during the passage of the foetus at birth has not been proved, and must, in any case, be exceptional, owing to the protection afforded by the vernix caseosa.

In infants the chancre is small, and often escapes notice; it is usually situated on the face. In older children chancres may occur on the genitals from contamination by a syphilitic nurse or from

precocious attempts at sexual connection with infected children. The chief point in the diagnosis of facial chancres, as of other extra-genital chancres, is to bear in mind the possibility of their occurrence. If they are not thought of they will escape diagnosis.

Differential diagnosis.—The chief points in which acquired syphilis differs from congenital, apart from the presence of a chancre, are as follows: (1) In infants, the absence of lesions which are characteristic of congenital syphilis, such as the natiform skull, epiphysitis, snuffles, bullous plantar and palmar syphilides (the so-called syphilitic pemphigus), the characteristic squamous syphilides on the buttocks and face, especially the circumoral syphilides which leave radiating scars round the mouth; in older children, the absence of Hutchinson's teeth, sudden deafness and interstitial keratitis. Hutchinson's teeth are pathognomonic of congenital syphilis, but interstitial keratitis and syphilitic deafness may occur in the acquired disease, although they are far more common in congenital syphilis. (2) Contrast between the age of the child and the quality of the lesions; for example, a roseola eruption and mucous patches in a child aged 12 years must be recent, and, therefore, acquired; but tertiary lesions are often impossible to distinguish, for a gumma in a child of twelve may be due either to congenital or acquired syphilis, and the lesions are identical.

Acquired syphilis in infants is thus fairly easy to diagnose from early congenital syphilis, but later on in life it is more difficult, and in the tertiary stage it is impossible to distinguish between the two in the absence of such characteristic signs as Hutchinson's teeth. Diagnosis is important from the *medico-legal* aspect with regard to the infection of infants by wet-nurses and criminal assaults on children. For example, a wet-nurse may be accused of infecting an infant with syphilis when the child was really a congenital syphilitic. On the other hand, the nurse herself may be infected by the infant, and could claim damages against the parents. In all cases of venereal infection in children all sources of accidental contamination, by infected towels, linen, etc., or by accidental contact with an infected person, must be excluded before any charge can be brought against a person suspected of having committed a criminal assault.

Another important point in connection with acquired syphilis in children is that this mode of infection may constitute a source of error in cases of supposed transmission of syphilis to the third generation—when the child of a congenitally syphilitic mother is infected with acquired syphilis, and this is mistaken for the con-

genital disease. This is not the place to enter into a discussion of this much controverted subject; it is sufficient to say that, while transmission to the third generation is theoretically possible, it is almost impossible to prove, owing to the difficulty in excluding infection of the second generation with acquired syphilis.

The question of infection of the subjects of congenital syphilis with the acquired disease (which Tarnowsky named "binary syphilis") hardly comes into the scope of the present article, since the immunity conferred by congenital syphilis probably lasts at least till puberty (Finger).

Of greater importance is the relation of syphilis to tuberculosis. Ricord recognised the combination or symbiosis of syphilis and tuberculosis, to which he gave the name *serofulo-syphilis* (*serofulate de vérole*), and Fournier pointed out that syphilis was a predisposing cause to tuberculosis, especially to pulmonary tuberculosis. More recently Sergent has emphasised the fact that both acquired and congenital syphilis create a soil which is favourable for the development of the tubercle bacillus, and that in this way the two infections may combine to form "hybrid lesions." This symbiosis of tubercle and syphilis probably accounts for many of the glandular and other affections which used to be designated struma or scrofula. The majority of such cases probably occur in congenital syphilitics, who become subsequently infected with tubercle, where, as Sergent remarks, "the syphilisation of the father prepares a soil for the tuberculisation of the child" (Sergent is evidently a believer in the paternal transmission of syphilis). However, it is not improbable that some cases may originate from the symbiosis of tubercle with *acquired* syphilis in infancy.

The diagnosis of these mixed cases is important, for they will improve considerably under mercurial treatment. All such cases—and this applies especially to chronic bone and joint disease—should therefore be tested both by the Wassermann test for syphilis and by one of the tuberculin tests (cutaneous or subcutaneous) for tuberculosis.

As regards the practical value of his cutaneous tuberculin test, Von Pirquet says that "a positive reaction means a previous infection with tuberculosis. We do not know by the reaction how far this infection has gone." However, he states that the reaction is generally intense in recent infection, but that it often fails in chronic and emaciated cases, and in the later stages of tertiary tuberculosis or tuberculous meningitis. The test is of less use in adults because so many have been infected with tubercle. In doubtful lesions Von

Pirquet considers that an intense positive reaction speaks in favour of the tuberculous nature of the lesion, but does not entirely decide the question. On the other hand, a negative reaction after two or three trials proves that the patient is not tuberculous at all, and hence the lesion is not tuberculous. In children he thinks it useful in diagnosing the nature of chronic intestinal marasmus, bone lesions, glandular swellings, and commencing meningitis.

As regards the subject of the present article, Von Pirquet's cutaneous test (or the subcutaneous method) will be useful in diagnosing between syphilitic and tuberculous lesions of the bones and joints, and in cases of meningitis, etc., especially when performed in conjunction with the Wassermann test.

GONORRHOEA IN CHILDREN.

Gonorrhœa in female children generally takes the form of *vulvo-vaginitis*, the gonococci being able to penetrate the thin epithelium of the vulva and vagina, whereas in adult women the epithelium of these parts is thicker and less easily penetrated. Several epidemics of vulvo-vaginitis occurring in schools or other institutions for girls have been reported, the disease being introduced by an infected individual and spread by means of towels, or in other ways. In boys gonorrhœa usually occurs in the form of urethritis. However, it must be borne in mind that infection may sometimes take place through the nose or mouth, giving rise to gonorrhœal rhinitis or stomatitis. Cases in which infection probably took place through the mouth have been reported by Kimball. Gonorrhœal infection of the conjunctiva in infants, giving rise to the majority of cases of ophthalmia neonatorum, is too well known to need further comment.

The important point to remember in connection with gonorrhœa in children is the fact that this disease, in whatever way it is contracted—whether through the eye, nose, mouth, vulva, or urethra—may be followed by the same complications as in the adult. In female children the disease may spread to the uterus, tubes, ovaries, and peritoneum, and Whitehouse suggests that some cases of endometritis, dysmenorrhœa, and salpingitis in adults may be due to latent uncured gonocœcal infection in childhood. In boys gonorrhœal urethritis may be followed by the same complications as in the adult, although local complications affecting the prostate, etc., are rarer, owing to the incomplete development of these organs. In both sexes gonocœcal arthritis and septicæmia

may occur, and it is probable that gonorrhœa accounts for not a few cases of obscure joint disease and septicæmic or pyæmic conditions in childhood.

Kimball has reported eight cases of *gonorrhœal pyæmia* in infants under three months old, seven males and one female. In six cases there was arthritis affecting the knees, ankles, and wrists, in the pus from which gonococci were found. In these cases no urethritis, vaginitis, or conjunctivitis was found to account for the infection, but in three cases there was stomatitis in which a diplococcus was found resembling the gonococcus in appearance and in staining reactions. Kimball therefore attributed the infection to gonorrhœal stomatitis. This was supported by the fact that in one case there were tracheal abscesses containing gonococci, suggesting entry by the respiratory tract.

Northrup reported two cases of *peritonitis* following vulvo-vaginitis in girls, aged 9 and 10 years. Gonococci were present in the vaginal discharge, and the source of infection was a woman affected with gonorrhœa, with whom the children slept. Comby has recorded eight cases of peritonitis following vulvo-vaginitis, all of which recovered without operation. Variot has also reported two similar cases in girls, aged 10 and 12 years. Cases of peritonitis secondary to vulvo-vaginitis are usually benign, but fatal cases have been reported by Huber and Baginsky.

Clement Lucas reported twenty-three cases of *gonorrhœal arthritis* in infants following purulent ophthalmia. Of these eighteen were cases of ophthalmia neonatorum contracted during parturition, and five were cases of accidental inoculation in older children. The arthritis generally appeared in the second or third week of the ophthalmia, and affected chiefly the knees or wrists. Gonococci were found in the pus from the eyes and joints. Hallé reported several cases of gonorrhœal arthritis following vulvo-vaginitis; in one girl, aged 7 years, the sterno-clavicular joint was affected; in another girl, aged 5 years, there was arthritis of the hip-joint, which was supposed to be tuberculous.

Pollack investigated 187 cases of venereal disease in children treated at the Johns Hopkins Dispensary. Most of the cases consisted of gonorrhœa and its complications, including three cases of arthritis, nineteen of peritonitis, and one of endocarditis; but double infection with syphilis and gonorrhœa was not uncommon. Acquired venereal disease in children appeared to be more common than was generally supposed, and much of it was attributed to the old superstition that a man can get rid of venereal disease by

having connection with a virgin. The disease ran a milder course than in adults as regards complications, but the number of complications and the duration of the disease appeared to be almost identical.

Diagnosis.—The cases mentioned above will show the importance of gonorrhœal infection in children. We now have to consider the diagnosis of the disease and its more important complications.

Vulvo-vaginitis may be caused by uncleanness, by the presence of thread-worms, or by foreign bodies inserted into the vagina. The diagnosis is easily settled by finding the gonococcus in the discharge.

Urethritis in boys may be due to extension of inflammation to the urethra from balanitis set up by retained smegma and phimosis, or to foreign bodies inserted into the urethra. According to Genevoix, a primary tuberculous urethritis may occur, which may be complicated by stricture and fistula; he also describes a diathetic urethritis in boys due to "arthritis" or "lymphatism," similar in type to the gouty urethritis of adults. Diagnosis is settled by finding the gonococcus.

But the points of greatest interest and importance in connection with gonorrhœal infections in children concern the complications caused by general gonococcal infection, or gonococcal septicæmia.

Gonococcal septicæmia may occur in a severe or in a mild form, but between these two types there are intermediate forms of varying severity.

(1) The severe form may run a course clinically resembling enteric fever, with a temperature ranging between 102° and 104° F., a dry tongue, dicrotic pulse, enlarged spleen, and an erythematous eruption. In most cases, however, the joints are affected, becoming red, swollen, and painful: the condition may then be mistaken for acute articular rheumatism, especially as a cardiac murmur is often present (gonococcal endocarditis). Sometimes the endocarditis is the most prominent lesion, and the joints are affected later; this occurs most often in patients suffering from old valvular lesions, the gonococcus having a tendency to attack parts which have been damaged by previous lesions. Gonorrhœal endocarditis may run a benign course, or it may become malignant and run the usual fatal course of malignant endocarditis. Similarly, the gonorrhœal arthritis may subside or become reduced to one or more joints, or it may take on a malignant and fatal development. In the former case the joints may undergo fibrous ankylosis (as in the mild form of gonococcal septicæmia to be described next); in the latter case the joints suppurate and the condition becomes one of general pyæmia.

The diagnosis of these severe cases of gonococcal septicæmia depends: first, on discovering the source of gonorrhœal infection, usually in the urethra or vagina; secondly, on cultivation of the gonococcus from fluid aspirated from the joints, and from the blood. The gonococcus can be found in more than 50 per cent. of cases in fluid obtained from the joints, and it has been cultivated from the patient's blood during life in cases of gonococcal arthritis, endocarditis, and other forms of acute gonococcal septicæmia.

In cases of septicæmia, pyæmia, and malignant endocarditis it is therefore important to bear in mind the gonococcus as a possible cause. It is also important to remember that cases of severe gonococcal septicæmia sometimes resemble enteric fever, but more often acute rheumatism.

(2) The mild form of gonococcal septicæmia, which is much more common than the above, constitutes what is usually known as "gonorrhœal rheumatism." In this form fever and general symptoms are mild, or even absent altogether, and the affection is first manifested by swelling of the joints. The joints affected are usually the larger ones, especially the knee, the condition being either simple hydrarthrosis or plastic arthritis, the latter often leading to more or less fibrous ankylosis.

This subacute form of gonorrhœal arthritis, or gonorrhœal rheumatism, may be mistaken for tuberculous arthritis or for joint disease due to acquired or congenital syphilis. Howard Marsh has reported some instructive cases of joint disease in adults which were originally diagnosed as tuberculous, but afterwards found to be of gonococcal origin, the presence of gonorrhœal urethritis being discovered in each case. This diagnostic error is also liable to occur in children, in whom almost every chronic joint affection is attributed to tuberculosis. It must, however, be borne in mind that a child suffering from tuberculosis may become infected with gonorrhœa, so that the joint affection may be a mixed one. Again, as the late R. W. Taylor has pointed out, the gonococcus prepares the soil for other microbes, so that joints which have been affected with gonorrhœal rheumatism may subsequently become the seat of tuberculous arthritis. In such cases the cutaneous or subcutaneous tuberculin test may prove useful.

The joint affections of acquired and congenital syphilis differ from gonorrhœal arthritis by the absence of pain and limitation of movement; a patient with syphilitic arthritis can usually walk about with comparatively little discomfort, but a patient with gonorrhœal arthritis limps along painfully, and is often laid up altogether.

The Wassermann test is of great assistance here, as it gives a positive reaction in the majority of cases of acquired syphilis and in nearly all cases of congenital syphilis. But here, again, there may be a fallacy, owing to the co-existence of syphilitic and gonococcal infection. A child with acquired or congenital syphilis may be infected with gonorrhœa; gonococcal infection of the joints may take place, and this may be mistaken for syphilitic hydrarthrosis.

R. W. Taylor describes gonorrhœal arthritis affecting the small joints of the hands and feet, sometimes resulting in caries or necrosis; also gonorrhœal periostitis and osteitis of the long bones, especially near the epiphyses (ribs, clavicle, sternum, etc.). Such cases might be mistaken for rheumatoid arthritis, syphilis, or tubercle; but it is possible that these cases ending in caries and necrosis are examples of mixed infection with gonorrhœa and syphilis or gonorrhœa and tuberculosis.

Treatment.—Cases of gonorrhœal infection have been successfully treated by the injection of vaccines of dead gonococci and various forms of serum.

Eyre and Stewart have reported the results of three years' treatment of gonococcal infection by vaccines. They obtained good results in cases of acute gonorrhœa, as well as in cases of chronic gonorrhœa and its complications, including arthritis and iritis. They consider that an autogenous vaccine is not necessary, as almost equally good results can be obtained by using a stock vaccine comprising a dozen different strains. Butler and Long treated twelve cases of vulvo-vaginitis in children between the ages of eighteen months and twelve years by vaccines, regulating the dosage by the opsonic index, and compared the results with those obtained by treating twelve other children locally with argyrol and potassium permanganate irrigations. The results were better in the cases treated by vaccines. Whitehouse also successfully treated two cases of vulvo-vaginitis in children with vaccines, and considers vaccine-therapy the most useful weapon in the treatment of gonorrhœa.

Parkinson has reported some remarkably successful results from rectal injections of polyvalent anti-streptococcus serum in cases of gonorrhœal arthritis, and also in one case of gonococcal pyæmia.

Rogers and Torrey treated cases of gonococcal infection by means of an anti-serum. Gonococci were grown on ascites-agar and inoculated into the peritoneum of a sheep; when the animal was immunised the serum was obtained. In doses of 2 c.c., given on alternate days, this was said to prove useful in complications due

to direct extension, and in arthritis, but not in acute urethritis. Of the above three therapeutic measures the first two would appear to be the most useful. For further details of treatment the reader is referred to the original articles (see references).

As regards the *local treatment*, in addition to the usual irrigation with permanganate of potassium or one of the silver salts, there are two other remedies which seem to be worth a trial. One of these is a preparation of *lactic acid bacilli*, the other is *yeast*. Watson treats cases of gonorrhœal or mixed infection of the female genital tract with a preparation obtained by filtering "Sanerkultur," made from skimmed milk. Filtering separates the casein and leaves a whey containing numerous lactic acid bacilli, as well as lactose, lactalbumin, and salts. The solution can be strengthened by adding sugar of milk or a powdered tablet of lactic acid bacilli. After disinfecting the parts all excess of disinfectant is removed, and the lactic fluid introduced into the vagina. In some cases the vaginal secretion is said to become normal in a few days, in other cases after the treatment has been repeated weekly for two or three weeks. The lactic acid bacilli are said to act as a substitute for the acid-forming bacillus of Döderlein, which is the supposed protective microbe of the vagina. Whitehouse also recommends this treatment, using a virulent broth-culture of the bacilli together with a powdered tabloid of "lacto-bacilline" and a little lactose every three or four days for a fortnight.

Yeast also appears to have a destructive effect on the gonococci, and has been recommended in cases of chronic cervical catarrh, applied to the cervical canal in the form of bougies containing asparagin or cane sugar as a nutrient medium. This method is obviously inapplicable to children, but the yeast may be introduced into the vagina in cases of vulvo-vaginitis.

Cases of general gonococcal infection show the importance of early diagnosis and treatment in all cases of vulvo-vaginitis and urethritis in children. The prophylaxis of gonococcal septicæmia lies in thorough and early treatment of the primary focus of infection.

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THE OPERATIVE TREATMENT OF TUBERCULOUS MENINGITIS.

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It is perhaps a truism to say that there is no treatment for tuberculous meningitis. Certainly no disease which is seen as often in the wards of a children's hospital is so uniformly fatal. Tuberculous processes elsewhere are frequently limited, or even suppressed, by the activity of the tissues which they have invaded; the power of the poison over the body generally diminishes until the disease becomes so latent as to justify one in calling it cured. But when the meninges of the brain are the seat of the germ's activity the outlook is hopeless.

Although post-mortem evidence teaches that the meningeal affection is almost invariably secondary, and that in a large pro-

portion of cases active tuberculous processes, of which during life there was no manifestation, exist in other organs of the body, clinically tuberculous meningitis, in children more especially, is primarily a brain disease.

The picture is one of cerebral irritation, followed by increased intra-cranial pressure and exhaustion of the great nerve centres of the base of the brain. It is the prominence of the symptoms of increased intra-cranial pressure, confirmed by the finding of an excess of cerebro-spinal fluid after death, that has led many to hope that by surgical means the relief of the pressure might give the tissues time to check, if not overcome, the local activities of the bacilli in the meninges. Surgical interference with a similar affection of the peritoneum would certainly give justification for such hopes. Unfortunately experience has so far shown that they are vain.

Since, when the symptoms of tuberculous meningitis are sufficiently evident to enable one to form a positive diagnosis, the condition of the patient is rapidly becoming desperate, and consciousness is often diminished or gone, I do not think it necessary to labour an excuse for adopting a line of treatment, however heroic, if it can be thought to hold out even the most slender chance of success.

I have seen an operation on the brain performed in several cases of tuberculous meningitis, in addition to those described below, and I am convinced that in no one of them has the operation materially increased the patient's discomfort.

For the purposes of this short paper, the cases I quote are sufficient to illustrate the main points in this treatment of the disease which I think are worthy of attention.

In every case of tuberculous meningitis which I have seen lumbar puncture showed the cerebro-spinal fluid to be under increased pressure, but in no single instance have I found that drawing it off had any effect on the course of the disease.

In Case I, the first in which I saw an operation for this condition performed, drainage of the base of the brain was most satisfactorily effected. Free drainage was maintained until the end, but this patient died with the usual symptoms of a gradually increasing intra-cranial pressure.

Although I was unable to examine this case after death, I have little doubt that the drainage of the base of the brain had not relieved the intra-ventricular pressure, and the result of the operation in this case was similar to that in others in which I have since

seen it performed. I concluded, therefore, that merely to drain from beneath the tentorium was useless, and so in Case 2 I asked Mr. Burfield to tap the lateral ventricle in order to see whether relieving the pressure in that situation would prove more beneficial. The result was as alarming as it was unexpected. An hour after the operation severe convulsions set in, followed later by fits of screaming, in which the child's face wore an expression of extreme terror, although she seemed completely unconscious of her surroundings, and could not be made to respond to any stimulus. I did not see her during these, and I regret that inhalations of chloroform were not tried, as I believe these violent nerve disturbances were due to the sudden change of intra-cranial pressure, and might possibly have been only temporary. This case was, pathologically, by far the most favourable one I have come across for testing the value of an operation on the brain in this disease; for, with the naked eye, the only organ besides the brain in which tubercles could be detected was the spleen, and there were not many there. In Case 3 Mr. Burfield tapped the lateral ventricle, but took care not to allow the fluid to escape quickly, as we thought that the convulsions which followed the operation in Case 2 might have been due to a too rapid decrease in the intra-cranial pressure. Although the patient had no convulsions until thirty-six hours after the operation, and then they were nothing like so severe as in Case 2, and a great deal of fluid had drained away during that time, there was no appreciable improvement in his condition, and he died with the symptoms usually seen in cases of tuberculous meningitis. Since neither draining from beneath the tentorium nor tapping the lateral ventricles proved alone to be of any value in this disease, I thought that possibly the double operation might give a better result. This was tried in Case 4. Two days after the child's admission a drainage-tube was inserted beneath the cerebellum, and fluid came away freely. The same evening the condition of the child seemed to have slightly improved, but as in spite of the drainage being good this improvement was not maintained, three days after the first operation a second was performed.

On trephining over the left half of the cerebrum the dura was seen to be bulging, and fluid flowed freely when a tube was passed into the lateral ventricle. The operation produced no change in the child's condition, which rapidly became worse until his death on the following day.

At the post-mortem both tubes were found in their proper places, and drainage had been quite effectively established. There were

some small tubercles scattered through the lungs and in the bronchial and mesenteric glands. The spleen was not affected.

My experience has proved to me that in order adequately to relieve the intra-cranial pressure both the base of the brain and the lateral ventricles must be drained. I am forced, however, to the conclusion that this intra-cranial pressure is not the immediate cause of death, which must therefore be ascribed to the effect of the inflammatory process on the brain substance rather than on the meninges only. Operative interference is therefore unfortunately useless.

I may add that my colleague, Mr. Blaxland, recently performed the double operation on a patient with tuberculous meningitis under his care without effecting any relief to the child's condition.

CASE 1.—Boy, aged $3\frac{1}{2}$ years. Always been healthy. Family history good. I saw him on May the 16th, 1905, as he had not been quite well for the last few days. He had once or twice objected to bright daylight and complained of his head, and his nose had bled. During the next few days symptoms rather indefinite and very suggestive of early tuberculous meningitis. May the 22nd: Temperature 100.4° F.; pulse 66. May the 24th: Ears normal. Optic neuritis in both eyes. May the 25th: Weakness of right external rectus and of right side of face.

Mr. H. A. Ballance saw him with me and operated at 5 p.m. He trephined over the occipital bone, and on raising the cerebellum with a flat retractor fluid gushed out. Some tubercles were seen on the under surface of the cerebellum. From May the 25th until June the 11th, when he died, he never recovered consciousness, but on several occasions he seemed to improve and looked much better. The wound was dressed frequently, and it was often necessary to pass a retractor beneath the cerebellum to ensure a free drainage. Any interference with the free flow of the fluid caused slowing of the pulse and a fall of temperature.

When the temperature rose to 101° F. he was always much worse, breathing rapidly and becoming rigid. Cold packing and cold sponging immediately relieved these symptoms. He had one or two convulsions starting in the right thumb. Free drainage was maintained until death. There was no autopsy.

CASE 2.—Elsie H—, aged $5\frac{1}{2}$ years, admitted into the Jenny Lind Infirmary, July the 6th, 1909. Family history unimportant. She had measles two months before admission and since has suffered from occasional headaches, which one week ago got worse and were accompanied by vomiting.

Condition on admission.—Is unconscious and lies in a state of stupor. Pupils dilated; react irregularly. Nothing heard over lungs. No ear discharge. Pulse 66 to 80, irregular; respirations 20; temperature 99° F.

July the 8th: The right external rectus is paralysed. About 2 oz. of clear fluid drawn off by lumbar puncture. July the 9th: Mr. Burfield trephined over the right cerebral hemisphere about two inches above the external auditory meatus. There was considerable bulging of the brain, and on passing a tube into the lateral ventricle fluid poured out freely. At the end of the operation the pulse was regular and the squint had disappeared. An hour later she started severe convulsive movements of the right face and upper limb. These lasted for two hours, and were followed a few hours later by fits of screaming in which the facial aspect was one of horror, and the arms and legs, especially on the right side, were thrown about wildly. She gradually became exhausted and died, having never shown any sign of consciousness since the operation.

Post mortem.—The tube was in the right lateral ventricle, which had been quite thoroughly drained. There was typical tuberculous meningitis.

No tubercles seen elsewhere except on the surface of spleen.

CASE 3.—Stanley T—, aged 5 years, admitted October the 5th, 1909. Family history good. None of tubercle. Had pneumonia two years ago. Was quite well until twelve days before admission, when he complained of headache and seemed feverish. Bowels normal. No vomiting. Became unconscious four days before admission.

Condition on admission.—Lies with legs drawn up in semi-conscious condition. Pupils medium size; react to light. Limbs rigid. Knee-jerks? Babiniski's sign present on both sides. A few râles over both lungs. Pulse 72; temperature 99° F. No optic neuritis. October the 6th: Lumbar puncture showed increased pressure of spinal fluid, which was clear.

October the 7th: At 9.15 p.m. Mr. Burfield trephined over the right cerebral hemisphere. There was considerable bulging of the brain, and on inserting a tube into the descending horn of the lateral ventricle fluid gushed out. The rate of flow was checked by a gauze pad. October the 8th: Condition unaltered. Has had some twitchings of the left arm. Pad removed and fluid allowed to flow freely for a time. October the 9th: Seems slightly more conscious. Had two general convulsions this morning. Pad twice removed. Fluid still coming away freely. Had some more convulsions later, but not severe. October the 10th: Steadily getting worse. Died at 11 p.m.

Post mortem.—Typical tuberculous meningitis. Lateral ventricles dilated, and contained a good deal of fluid. Tubercles in lungs and spleen.

CASE 4.—Sidney G—, aged 9 years. Admitted into the Jenny Lind Infirmary, December the 7th, 1909. Father and mother healthy. Of thirteen children two died of "consumption," one aged 10 months, and the other aged $2\frac{1}{2}$ years. Except for whooping-cough and rickets has had no definite illness until three months ago, when he had measles, but his mother says he has never been strong. Not been well since measles. Sickness started fourteen days ago. Drowsy for last week.

Condition on admission.—Semi-conscious; neck rigid. Pupils react to light; optic neuritis in both eyes, but more marked in left. Temperature 100° F.; pulse 100; respirations 24. A few râles heard in the lungs.

October the 9th: Three ounces of clear fluid obtained by lumbar puncture. Six p.m.: Mr. Whitwell trephined over the left side of the occipital bone. A rubber tube was inserted beneath the cerebellum. Fluid flowed out freely. December the 10th: Wound draining well. Patient had a good night and takes milk well. December the 11th: Seems a little more unconscious. Fluid coming away freely. December the 12th, 6 p.m.: Mr. Whitwell trephined over the left parietal lobe and passed a tube into the left lateral ventricle. Fluid flowed freely, but not under such pressure as in preceding cases. December the 13th: Child much worse. Both wounds draining well. Died at 4 p.m.

Post mortem.—Both tubes in position and clear. No excess of cerebro-spinal fluid. Tuberculous meningitis. Some tubercles in lungs and a few in bronchial and mesenteric glands. No caseation.

MALIGNANT ENDOCARDITIS OF THE TRICUSPID VALVE IN A CHILD AGED SIX YEARS.*

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A GIRL, aged 6 years, was admitted under my care on March the 15th, 1910, complaining of abdominal pain, which had come on apparently quite suddenly on March the 11th. There had not been

* Case reported to the Section for the Study of Disease in Children of the Royal Society of Medicine, on May the 27th, 1910.

any vomiting. No blood had been passed by the rectum. The bowels had not been moved since the onset of the illness.

Previous history.—The child had not suffered from any recent illness. There was no history of scarlet fever or chorea. At the time of complaining of abdominal pains she had also complained of pains in the legs.

Condition on admission.—Temperature, 104.2° F.; pulse regular, but weak and rapid. The child was lying on her back, the abdomen was much distended, movements with respiration were very slight, and the walls were rigid, and whenever touched she cried out, "Oh, my belly!" The percussion note was resonant. Nothing abnormal could be felt on rectal examination. On examining the chest no abnormal physical signs were detected. There was no albumin in the urine.

The child having been sent into the hospital as a case of peritonitis, I asked my surgical colleague to see her, and it was ultimately decided to operate, but when the abdomen was opened, beyond some meteorism and one or two small faecal masses, nothing abnormal was observed. On the following day (March the 16th) the child still complained of constant abdominal pain, and she cried out very frequently; the legs were now somewhat rigid and no knee-reflex could be obtained. On March the 17th considerable dyspnœa was present, and on percussion over the thorax the note over both bases was impaired and an area of tubular breathing was noted over the left base. The abdominal pain was still complained of, and on the following day (March the 18th) the child's face was of a dusky colour. Dyspnœa was much increased, and there was evidence of broncho-pneumonia of both lungs. Later in the day the child died; that was three days after admission. No cardiac murmur was detected at any time.

Autopsy.—On opening the abdomen the stomach was found to be distended. The mesenteric glands were enlarged. There was no peritonitis, no collapse of bowel, and no occlusion of the mesenteric vessels noticed. On section of the kidneys a few white infarcts were seen in the cortex; these organs appeared otherwise normal. The liver on section showed a few white infarcts close to the surface. No infarcts were seen in the spleen. Thorax: In the left pleural cavity a small amount of semi-purulent exudation was found. The left lung was bound by recent adhesions to the chest-wall and the diaphragm; there was some recent lymph over the surface. The right lung was slightly adherent at the base. On examining the lungs a few white nodules were seen on the surface, and when a section was made these

nodules—white infarcts—were seen to be quite at the periphery of the lung substance. Both lungs were congested and had scattered over the surface dark, triangular patches, giving much the appearance of red infarcts. There was one large bronchial gland showing evidence of an old caseous focus in the centre. Heart: The mitral and aortic valves were normal. On the auricular surface of the middle cusp of the tricuspid valve a whitish-grey, rounded nodule, about one eighth of an inch in diameter, was seen.

Report from the Clinical Research Association.—Nodule on heart-valve was found to be inflammatory in origin, and crowded with Gram-staining micrococci. The lesion was very suggestive of an ulcerative endocarditis. The lungs showed areas of broncho-pneumonia surrounded by marked congestion and much leucocytic infiltration. These were found to be crowded with cocci like those in the heart-valve; they have the appearance of pyæmic foci. The bronchial gland showed an old caseous focus containing tubercle bacilli. There was no evidence of tubercle bacilli in the lung.

I am recording this case as one of malignant or ulcerative endocarditis, as I think the lesions present, as also the report of the Clinical Research Association, justify me in so doing. This form of endocarditis is by all writers admitted to be rare in children. Holt states that malignant or ulcerative endocarditis is a rare disease in children, and he refers to a case reported by Harris in a boy, aged 4 years, in whom the right side of the heart was affected; the condition was secondary to a cardiac malformation. Holt states that of the cases thus far reported in early life, about twenty-five in number, the great proportion have been in children over ten years of age (1). Osler (2), in his Gulstonian Lectures, states that young children are rarely the victims: there were only three or four instances under ten years of age.

The secondary affections in the case now recorded are of interest; the secondary affection of the lungs which is, I believe, usual when the right side of the heart is affected, and then the presence of white infarcts in the liver and kidneys.

As stated above, the child complained of pains in the legs, so far as one can ascertain, at the same time as the abdominal pains, and I now refer to it in relation to the ætiology. Malignant endocarditis in children seldom occurs as a primary affection. Holt states that it is most frequently secondary to pneumonia, but in my case broncho-pneumonia occurred late in the disease. Next to this he places rheumatism and meningitis, and it is in reference to the question of rheumatism that I allude to the fact of the child having complained

of pains in the legs; the joints were not swollen, neither was pain complained of when they were touched, but we know that in children indifferent pains frequently precede endocarditis. As regards meningitis, clinically there was no evidence of this, and as we were not allowed to open the head, the brain, etc., could not be examined.

Postscript.—In answer to questions raised at the subsequent discussion, Dr. Hawkins said that there was no evidence of embolism in a mesenteric vessel, and such an event was somewhat rare; he had seen only three cases in thirteen years. He called it malignant endocarditis because there was no evidence of ulceration, and he did not think that the term “infective” applied exactly to this type, as he was inclined to regard the endocarditis occurring in rheumatic fever as infective. He did not know what kind of house the child lived in. The temperature of this child was high on admission.

REFERENCES.

- (1) HOLT, L. E.—‘Diseases of Infancy and Childhood,’ 1903, 2nd edit., p. 622.
- (2) ‘Lancet,’ i, 1885, p. 505.

Third International Congress on School Hygiene.

Held in Paris, August the 2nd—7th, 1910.

(Compiled from ‘School Hygiene,’ September, 1910, by Dr. M. D. EDER.)

THREE subjects were set down for discussion before the Congress, the first hour each morning being devoted to these special subjects, whilst the rest of the work was split up into thirteen sections and sub-sections.

Unfortunately much of the value of these set discussions was lost, because on the first and second days there was no discussion at all, and on the third day it was only by extending the meeting for half an hour that a short debate was allowed.

The subject for discussion on the first working day of the Congress was—

Uniformity of Method for Physical Examination in Schools.—The papers by Drs. Mery and Dufestel dealt at considerable length with the routine of medical inspection. Dr. J. KERR’s report was agreeably brief, and gave a very practical presentation of the school doctor’s aims:

Medical inspection in the school has come before the public in two aspects, namely, (1) for the prevention of infectious disease, and again, (2) the medical inspection in regard to health generally, apart from the infectious diseases.

The prevention of infectious diseases through the schools will only be of importance in sparsely populated country districts; to attack infectious diseases through the schools in towns shows a want of perspective. The field of conflict is in the streets and the homes, and it is there that money and effort must be expended for the greatest results. The maximum of useful efforts by the doctor in respect to prevention of acute infections through the schools is easily attainable. It is work that essentially belongs to the medical officer of health, and only for convenience is handled by the school doctor, but, as already said, the result of school efforts are trivial and scarcely to be improved on in populous places.

The other aspect of medical inspection is in regard to the general health of the children. It originated, in England at any rate, in efforts to improve the educational capacity of the children, and to remedy what was harmful in education. This side of the subject is, however, now in danger of being overlooked in England. Education is a public function throughout civilised lands, and medical inspection has also generally become a public function. There is no question of payment by the individual child or its parents for the doctor's examination or advice. It is now part of the field of public health work, publicly provided and free of cost. As thus set out, then, medical inspection has two purposes:

(1) Its first great purpose is the scientific aim of raising the standard of public health and improving the methods of education by furnishing knowledge as to the various factors affecting the health and development of children. Under this head the school doctor knows no limit or boundary to his efforts or inquiries, save only that he is inquiring into whatsoever things affect or tend to affect the health and efficiency of those working in the schools.

(2) The second purpose is the immediate practical aim of detecting any defect in the individual children with a view to their being remedied; in other words, the doctor seeks out conditions requiring medical treatment.

Now these two purposes are theoretically identical, but when viewed in the stern light of expense they are quite opposed; both are necessary, but not to the same extent.

He was opposed to the routine examination of all children for statistical purposes. "Statistics as commonly used are of more interest or even amusement to the person dealing with them than of value to others. Unless large numbers of facts of similar nature are being dealt with, there is little of value to be obtained from statistics. These only become of considerable value when properly assessed facts are collected for the definite purpose."

What the school doctor has to determine is, does the child—

(a) Require or not require special medical treatment;

(b) Require or not require special educational treatment.

Children assessed as normal at the first inspection need have no elaborate notes recorded. Family histories are mere useless waste of time. Any possible weighings and measurements, once standards have been determined, are neither of interest or value to the public.

Weighing and measuring to be of use should be done weekly as a guide to metabolism, and as an adjunct in cases where there is cause to suspect nutritive failure from early tuberculosis or other disturbing cause.

If exceptional treatment, educational or medical, is required, a careful examination of the child must be made and a proper treatment carried out. This is the proper use of public money, which "is too precious, and the many purposes to which it has to be applied are too urgent to waste any of it on mere formalities."

On the second morning Drs. CHOTZEN (Breslau) and DOLERIS (Paris) read their reports:

Instruction on Sex.—A full report in German, with an abstract in three languages, was handed to members of Dr. Chotzen's paper, so that it was an unnecessary waste of time to read the long paper in full. The chief points brought out were:

(1) The importance of correct information about sex for the individual and the race.

(2) The apathy or ignorance shown by most parents on this question.

They suggested:

(1) Young children must receive early instruction at home, use being made of any facts from the plant or animal world that came within the purview of the home.

(2) Up to fourteen, classes should be held in biology, which should include the phenomena of reproduction in the plant and animal world, excluding man.

(3) After fourteen, instruction directly bearing on the phenomena of sex in man should be given both for boys and girls, with the consent of the parents.

(4) Before leaving the college a few lectures in sex hygiene should be given, including the subject of venereal disease.

(5) The lectures should be given by medical men, who should speak not only from a biological, but also from the ethical and social standpoints. Everyone lecturing on that subject must uphold monogamy and maintain that no sexual relations are permissible before marriage.

(6) There should be conferences for parents on the subject, and at every training college a fairly complete course should be given by medical men to the students training for the scholastic profession.

The third morning the set subject was on the **Training and Selection of the School Doctor.**

Dr. DESGUIN (Antwerp) said that any medical man would do very well as a school doctor provided he were also a man of the world with tact and knowledge of human nature. The less of a specialist he was the better. Complicated schedules are impracticable in large centres, owing to waste of time, and futile in small parishes, where the school doctor knows everyone. Confidential relations with teachers are indispensable. Any school committee ought to have sense enough to make a sensible choice.

Dr. LESIEUR (Lyons) took a diametrically opposite view. Every school doctor must have high professional qualifications, both general and special. He ought, also, to be trained in hygiene, bacteriology, and chemistry, and be familiar with questions of sociology and pedagogy. He must undertake no medical treatment at school, and must not encroach upon the sphere of the family doctor. A competitive examination is the best method of selecting school doctors.

Dr. HOGARTH (London) suggested that the solution of the problem lay in a middle course. Different qualifications are needed for routine work in school and for administrative functions. The one type of school doctor is primarily a medical man with wide clinical experience; the other is primarily an administrator with special knowledge of educational hygiene in all its branches. General practitioners are best adapted for the ordinary routine work; their knowledge should be kept up to date by means of post-graduate courses. Teachers have had more than enough of inspection.

Section I.—EDUCATIONAL BUILDINGS AND FURNISHINGS.

The most important subject that was discussed in this section was that of shower-baths in schools.

M. GRENNES gave a full report on shower-baths in Norway. In Christiania nineteen out of the twenty elementary schools are provided with school baths—97 per cent. of the schools in towns have them.

M. CAZALET (Bordeaux) gave a sketch of the movement in France in favour of school baths. He maintained that they were as essential a part of a school building as the lavatories. He was able to inform the Congress that fourteen new primary schools now being erected at Lyons were all to be furnished with shower-baths. He concluded by moving this resolution: "It is desirable that in all educational establishments the use of shower-baths become compulsory, and that in future no school should be built without shower-baths."

Section II.—HYGIENE OF RESIDENTIAL SCHOOLS.

M. FERTÉ (principal of the Louis le Grand Lycée, Paris) and Dr. SHELLY (Hertford) gave a report on the best hygienic arrangements for boarding schools. Dr. Shelly maintained that sunshine and pure, bracing air were the most important of all factors in building a school. An attendant advantage is the greater intellectual output obtainable under favourable climatic conditions. He quoted the experience of Mr. J. S. Biggar, the European manager of the U.S. Express Company, who states "he can accomplish more work in four hours in America than in five or six hours in the less dry and bracing English climate."

Dr. CATHERINE CHISHOLM (Manchester) showed in her paper on **The Influence of the Medical Inspector in Girls' Higher Schools** the value of medical inspection in high schools. She deplored that so few of the girls' high schools have hitherto adopted it, although such inspection has been approved by the Head Mistresses' Association.

Section III.—MEDICAL INSPECTION OF SCHOOLS.

In this section there were three set discussions: (1) On **The Relations between the School Doctor, Teacher, Home and Family Doctor**; (2) on **The Employment of Specialists for Routine Medical Inspection of School Children**; (3) on **The Organisation of Medical Inspection in Rural Districts**.

The set discussions were well attended and some interesting points were raised. On Wednesday, August the 3rd, Dr. CAYLA (Neuilly) defined the relations between the school doctor, teacher, and family doctor, and limited his relations with the parents to a short conference at the beginning of each school year. The relations between teachers and school doctor must be unceasing throughout school time. Dr. GASPARINI (Florence) emphasised the need for almost daily co-operation between teacher and doctor, who must be an educationalist interested in all the subsidiary institutions of the school. He raised no objection to the school doctor visiting the parents at the homes for the purpose of school hygiene, provided that the strictest observance of professional etiquette was maintained.

Most of the subsequent speakers were in general agreement as to the personal and intimate relations which must exist between the doctor and the teacher. Dr. HOGARTH (London) added that the relations between the parents and the school doctor must be equally intimate. Medical inspection of school children was necessary because the parents were ignorant. Their ignorance cannot be so effectively overcome by rules, regulations, and correspondence as by means of informal meetings at the school, when the school doctor should take the opportunity of speaking in general terms upon all subjects relating to the health of children and the prevention of disease.

Dr. STACKLER (Paris) introduced a discussion as to the employment of specialists. The examination of special organs (eyes, ears, etc.) in the course of medical inspection of school children must be undertaken by the ordinary school doctors (*i.e.* general practitioners), and not by specialists. Dr. OEBEKKE (Breslau) carried the discussion much further, and divided the subject into five main heads:

(a) *Medical inspection*, for which an ordinary practitioner attached to every school is sufficient. He must also be prepared to make suggestions for the improvement of the school *régime*, etc.

(b) *Medical treatment* demands a distinct medical service, which should be linked up with the inspection service. School clinics are necessary for large towns; and in other places the employment of specialists, either working at parish dispensaries or school polyclinics, is essential.

(c) *School nurses* are necessary to follow the cases to their homes and to see that the prescribed treatment is carried out.

(d) *Regular conferences* between local school doctors, specialists, nurses, and their administrative chief (or director of school hygiene) are essential in order to secure unity of purpose in so complicated an organisation.

(e) *Central government office* is necessary for co-ordinating the efforts of the various decentralised authorities and agencies which are working in their different spheres on behalf of children of school age.

A warm debate ensued upon the subject of specialists. Dr. PAIRÉ (Deventes) agreed with Dr. Stackler, and thought Dr. Oebekke's scheme was too complicated. Dr. MONT (Bordeaux) thought the examination of eyes, ears, throats, etc., ought to be undertaken only by specialists. Many members spoke, some in favour of specialists, some against. But the fundamental point (predicated by Dr. CAZLA) that the school doctor was never required to make an exact diagnosis or to suggest any line of treatment was ignored. Obviously the routine work of school inspection can be undertaken by an ordinary general practitioner—and that was the verdict of the meeting. When, at the adjourned discussion, the following resolution, "That the employment of specialists under the control of the school medical officer is necessary for the medical inspection of school children," was put, it was lost by 35 votes to 10.

Dr. GAGNIÈRE (Thiais) urged that in any serious system of organisation in rural districts the school doctor must be the fountain head of all work; therefore he must be the local parish doctor, or if there be more than one, they will naturally take the school doctor's duties in turn. But each county (or department) will also retain the services of one or two medical inspectors, whose duty it will be not only to make tours of inspection, to help and advise the local school doctors in their work, but also to be responsible for the administration of the other branches of school hygiene in their area.

Dr. FREMANTLE (whose paper was read by Sir GEORGE FORDHAM) gave

a full account of the principles and details of the organisation of medical inspection in the rural county of Hertford. It was an interesting communication as suggesting a kind of middle course between the appointment of a limited number of *ad hoc* medical inspectors and the employment of local parish doctors for the work. In small urban districts Dr. Fremantle fully justified the employment of local medical officers of health, but in rural sanitary districts the area is too wide for the medical officers of health to be able to exert personal influence with teachers, parents, and children. For rural districts time alone will perfect a system when the general principles of medical inspection are more clearly understood, and when less attention is paid to statistics and trivial details and more attention to the individual child and to general educational hygiene.

Other papers included **Medically Inspected School Children**, by Dr. WILLIAMS (Bradford); and **A London School Clinic**, by Dr. M. D. EDER.

Section IV.—EDUCATION AND PHYSICAL TRAINING.

This subject took pre-eminence at the Congress by reason of the excellent and charming demonstrations of gymnastic and folk dances every afternoon.

The President, M. CAZALET, opened the section by a short speech on **The Value of Physical Education**. On his initiative the following resolution was passed: "Physical education should be made compulsory for boys and girls in all schools." Dr. PIASECKI (Poland) and Dr. De ROTTERMUND (Poland) read papers on **Games and Physical Education in Poland**. According to Dr. PIASECKI games are being taken with extraordinary enthusiasm throughout Poland, where even *boy scouting* is having an enormous success. Dr. ROTTERMUND explained that besides Swedish drill, swimming and chorus singing are included in the physical education of the school children of Warsaw.

Dr. HALLS DALLY (London) dealt with the necessity for systematic instruction in respiration. He pointed out what large numbers of children there are who do not breathe properly. His suggestion was, in the first instance, to hold classes for teachers conducted by a medical man, and for the teachers subsequently to give daily instruction to the children during a portion of the time given up to physical exercises.

Dr. DEMENY (Paris) read a paper on **The Principles of a New Method of Gymnastic Exercises**, according to which physical education of the muscles must proceed side by side with the education of the corresponding cerebro-spinal centres. Grace and harmony must be combined with all movements. All automatic movements must be eliminated. Economy of effort, skill, suppleness, readiness, grace, and elegance, these are the marks of a good posture and good bodily movements.

Miss GRAHAM (London) said that the girls in all the elementary and secondary schools should have the benefit of the physical exercise long given to boys; she regarded games, especially field sports, as possessing distinct advantages over other forms of exercises.

Dr. HULBERT (London) spoke on **The Cultivation of Vocal Tone and its Importance to Teachers**. The education of the voice is a special form of physical education based upon certain definite scientific principles. He commented upon the psychology and the physiology of the vocal movements, their muscular nature, and the physical constitution essential for their production. The tone of the voice is the result of the co-ordinated move-

ments of different groups of muscles ; the condition of the vocal apparatus is dependent upon the general physical condition. Physical education must take the quality of the voice into account ; exercises, respiratory and others, must be co-ordinated with the movements that affect the voice—this is a real index of the whole.

As against the position taken up in different ways by Dr. Demeny, Dr. Hulbert, and others, there was the paper by Mme. NADINE TAEKE, who was for Ling, and nothing but Ling. She believed that in a few years the Ling's gymnastic system would be accepted by every properly instructed person throughout the whole world. This system alone develops the respiration, circulation, digestion, etc. She hoped that France would put herself at the head of the widespread movement to spread the Swedish system throughout the whole world.

Dr. HERTZ (Copenhagen) drew attention to some conditions of ill-health among girls as a result of gymnastic exercises. Among seventy-two little girls who had complained of various ill-effects, he had found fifty-five complaining of headaches, vertigo, and nausea ; another seventeen complained only of headache. The first fifty-five were in good physical health, but had various nervous manifestations. In the other seventeen there were no decided signs of nervous instability. He considered that violent exercises should never be part of the gymnastics for girls, but did not advise the teachers to regard these complaints as sufficient to deprive the girls of the benefits of gymnastic exercises.

(To be continued.)

Abstracts from Current Literature.

Medicine.

Typhoid fever in children (*'Pediatrics,'* xxii, 1910, p. 341).—**Samuel Adams**, in a study of 550 carefully selected cases of typhoid fever occurring between the years 1872 and 1908, in the Children's Hospital, District of Columbia, states that typhoid fever in children differs only in degree from the disease in the adult, and that while the clinical phenomena differ somewhat, the structural changes are identical, regardless of age. With respect to season, the majority were admitted between July and October, with a larger preponderance in August. The proportion of boys and girls was about equal. There was only one case under one year of age, but a decided increase after that age, especially after four years of age. In most of the cases the mode of conveyance could not be traced ; forty-three were attributed to exposure to other cases, twenty-five to water, four to milk, while so far back as 1872 a case was attributed to oysters. The mode of onset was insidious in most cases ; usually with diarrhoea and malaise. The fever was generally of the remittent type, accompanied by much sweating at the height of the fever and terminating by lysis ; delirium was frequent as the result of high pyrexia. Rose spots were found in only about one fourth of all the cases, but it is pointed out that 20 per cent. of the children were negroes, in whom rose spots are less common. Only 3 per cent. were

attacked with perforation and died. The specific treatment was mostly cold sponging for the fever. Some semi-solid food was allowed if it suited.

J. E. BULLOCK.

Diphtheria in the Metropolitan Asylums Board Hospitals (*M. A. B. Reports*, 1909).—4393 cases were admitted during 1909 as compared with 5230 during 1908 (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, p. 137). Owing to the suggestion that the decline in mortality following the introduction of antitoxin was largely due to the inclusion of purely bacteriological cases, these have been returned this year in a separate column. Notwithstanding the exclusion of these cases the mortality was only 9·8 per cent. as compared with 30 per cent. before the introduction of antitoxin. The mortality at the various hospitals ranged from 7·0 to 13·8 per cent. Among 895 laryngeal cases there were 140 deaths—a mortality of 15·6 per cent. On 346 tracheotomy was performed, on 41 intubation, and on 22 both operations, among whom there were 113, 2, and 8 deaths respectively. The percentage error of diagnosis in cases admitted was 16·8. Among the 930 wrongly diagnosed as diphtheria were 82 of measles, 621 of tonsillitis, 17 of pneumonia, 62 of laryngitis, 14 of rhinitis; 27 had no obvious disease or were not diagnosed. Of complications paralysis occurred in 13·94 per cent., albuminuria in 25·34 per cent., and otitis in 5·4 per cent. Serum rashes were noted in 30·3 per cent., joint pains in 3·0 per cent., and abscesses at the injection site in 0·57 per cent. Of sequelæ, scarlet fever occurred in 6·75 per cent., measles in 1·45 per cent., and whooping-cough in 0·24 per cent.

J. D. ROLLESTON.

Diphtheria in Buda-Pesth (*Pest. Med-Chir. Presse*, 1910, p. 153).—**S. Gerlóczy**.—The case mortality among 509 patients treated with antitoxin at St. Ladislaus' Hospital in 1908 was 10·4 per cent.—a lower figure than in previous years at this hospital (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1909, p. 234). Intubation was performed on 70 cases, of which 40 recovered. The average duration of the tube in the larynx was fifty hours. Albuminuria was found in 171 cases, palatal and laryngeal palsies in 22, pneumonia in 12, and herpes labialis in 7. Serum rashes, 54 of which were urticarial, 13 scarlatiniform, and 10 morbilliform, occurred in 22·5 per cent. As in previous years many cases were suffering from mixed infections on admission to hospital, or contracted a secondary disease subsequently.

J. D. ROLLESTON.

Diphtheria of the stomach (*Deutsch. med. Wochens.*, No. 5, 1910, p. 246).—**Reiche**, at the Hamburg Medical Society, showed a specimen of fibrinous gastritis due to Klebs-Loeffler bacilli from a child, aged 18 months, who had died of severe faucial diphtheria on the fourth day of disease.

J. D. ROLLESTON.

Scarlet fever in the Metropolitan Asylums Board Hospitals (*M. A. B. Reports*, 1909).—15,384 cases of scarlet fever were admitted during 1909 as compared with 19,629 admitted in 1908 (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, p. 137). The mortality was 2·4 per cent. The percentage error of diagnosis was 6·8. Among the 1132 wrongly certified as scarlet fever were 93 of measles, 53 of rubella, 214 of tonsillitis, 278 of erythema, and 248 had no obvious disease or were not diagnosed. The commonest complications were otitis (12·7 per cent.),

albuminuria (9·32 per cent.), secondary adenitis (7·68 per cent.), nephritis (5·61 per cent.), and rheumatism (3·88 per cent.): 322, or 1·8 per cent., had relapses. There were 299 cases (1·85 per cent.) of post-scarlatinal diphtheria with 4 deaths, a mortality of 1·34 per cent. Twenty-seven of the post-scarlatinal cases were laryngeal, but all recovered.

J. D. ROLLESTON.

Malignant scarlatina; death from suprarenal insufficiency (*Bull. et Mém. de la Soc. Méd. des Hôp. de Paris*, xxix, 1910, p. 689).—**J. Comby** records a case in a boy, aged 6½ years, admitted to hospital on the third day of disease. The symptoms were—repeated vomiting, diffuse abdominal pain, fetid diarrhoea, and arterial hypotension. The urine contained much albumin, but no acetone. Death occurred suddenly on the day following admission. The autopsy showed multiple visceral congestion and destruction of the two suprarenals by hæmorrhage. No macroscopical lesions were found in the pancreas.

J. D. ROLLESTON.

Rapid death in scarlet fever; lesions of suprarenals and pancreas (*Bull. et Mém. de la Soc. Méd. des Hôp. de Paris*, xxix, 1910, p. 598).—**L. Tixier** and **J. Troisier**.—A girl, aged 3 years, died on the seventeenth day of a severe attack of scarlet fever, the symptoms preceding death being profound asthenia, emaciation, and tachycardia. The blood-pressure taken by Potain's sphygmomanometer on the day before death ranged between 50 and 60 mm. *Autopsy*: The pancreas weighed 58 grm. instead of the normal 20 to 30, and on section presented the appearance of yellow wax instead of the healthy pinkish-white colour. Histological examination showed a peri- and intra-acinous infiltration of leucocytes, which were chiefly polymorphonuclears, and a slight degree of interstitial sclerosis. The urine had not been examined for sugar. The whole of the right suprarenal and a large portion of the left had been destroyed by hæmorrhage. On histological examination the protoplasm of the cortex was found to be quite free from the normal droplets of fat. The medulla was almost entirely destroyed by hæmorrhage. Apart from congestion of the liver and kidneys there was a remarkable integrity of the other organs, including the parathyroids and hypophysis. There was no evidence of tuberculosis, so the writers are inclined to attribute the emaciation to the pancreatic lesions. The suprarenal lesions explain the asthenia, tachycardia and hypotension, symptoms which in previous years would have been attributed to disease of the myocardium. In the present case there were no degeneration nor hyperplastic lesions of the cardiac muscle.

J. D. ROLLESTON.

Mitral and aortic disease in scarlet fever (*Journ. des Praticiens*, 1910, p. 295).—**Nobécourt**.—A girl, aged 6 years, was admitted to hospital on December 15 with scarlet fever of a few days' duration. December 26: Double otitis. January 12: Aortic incompetence and pericardial friction. The latter disappeared in a few days, but the aortic lesions persisted, and subsequently mitral incompetence developed. The heart is fairly often affected in the severe forms of scarlet fever, but the phenomena observed are due to cardiac dilatation. Formerly this was attributed to myocarditis, but nowadays the primary lesion is considered to be situated elsewhere—usually in the suprarenals. Lesions of the endocardium and pericardium are much rarer. Signs of well-marked endocarditis in the first few days of the disease are almost always due to a previous infection. In the present case

the heart was perfectly healthy during the first month following the onset of scarlet fever, and the evolution of the complication was closely followed. The endocarditis of scarlet fever is due to secondary infection, of which the streptococcus is the most frequent agent. Rapid development is one of its most striking characteristics. Whereas in acute rheumatism the lesions do not acquire their definite stethoscopic character for several weeks, in scarlet fever, as illustrated by the present case, they are well-established in eight or ten days. The pathological anatomy corresponds to the clinical condition. Rheumatic endocarditis is usually plastic and scarlatinal endocarditis ulcerative. According to Nobécourt scarlatinal pericarditis usually ends in suppuration, so that the present case was exceptional in this respect.

J. D. ROLLESTON.

Measles and psoriasis (*'Deutsch. med. Wochens.'* 1910, p. 368).—**J. F. Friedjung**.—A girl, aged 4 years, was admitted to hospital in 1898 for unusually severe psoriasis of two years' duration. Ten days after admission she developed measles complicated by pneumonia. During the attack the psoriasis scales fell off, and at the end of a fortnight only pigmented areas served to mark the site of the psoriasis eruption. During the next twelve years the girl had only slight attacks of psoriasis, which rapidly yielded to chrysarobin treatment. Friedjung suggests that repeated injections of serum in severe cases of generalised psoriasis might cause a rash which would have a beneficial effect upon the pre-existent eruption.

J. D. ROLLESTON.

Measles and psoriasis (*'Deutsch. med. Wochens.'* 1910, p. 125).—**Rubens** records a case of severe psoriasis of fourteen years' duration in a man, aged 28 years, in whom all the scales fell off on the third day of an attack of measles. The beneficial effect of the acute exanthem may be explained, either by the hyperæmia induced or by Lassar's theory that psoriasis is an infectious disease, in which case the weaker virus was overpowered by the stronger.

J. D. ROLLESTON.

Measles complicated by subcutaneous emphysema (*'Hospitalstidende,'* 1910, p. 255).—**F. Teilmann**.—A girl, aged 7½ years, on the eighth day of an attack of measles complicated by capillary bronchitis developed subcutaneous emphysema, which appeared first in the cheeks, and on the following day extended down to the pubic symphysis and inguinal folds in front and to the iliac crests and lower part of the sacrum behind. The upper arms were also slightly involved. Examination of the mouth showed a slight swelling of the mucous membrane in the region of Stensen's duct. The emphysema disappeared in a few days, first in the lower part of the trunk, and last of all in the cheeks. Its occurrence is attributed to forcible dilatation, by coughing, of Stensen's duct, through which the air was drawn into the subcutaneous tissue. Reference is made to Tillaux's case of a glass-blower who developed a gaseous swelling in the parotid region.

J. D. ROLLESTON.

Complications of German measles (*'Semaine Méd.'* 1910, p. 313).—**C. D. Martelli**, after alluding to the severe attack recently described by Cheinisse (*v. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1907, p. 163), records three instances in an epidemic of forty-six cases in which lobar pneumonia developed in convalescence. Two of the patients were girls, aged

5 and 7 years, and one was a boy, aged 4 years. In none was it possible to incriminate a special virulence of the pathogenic agent, an insufficient resistance of the patient, or the influence of a hereditary taint. In six cases Martelli found albuminuria with casts and increase in the amount of urea. In four of these the rubella had run a very mild and apyretic course, and in two the albuminuria might possibly be attributed to the rise of temperature and intestinal disturbance. In only one of the forty-six cases was hæmaturia noted. Reference is made to the epidemic recorded by Bambaca, who found well-marked hæmaturia preceded by slight albuminuria in every case (*v. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1909, p. 36).

J. D. ROLLESTON.

Pseudo-rheumatism in rubella (*Lyon Méd.*, cxiv, 1910, p. 1127).—**Leclerc**.—Rheumatoid pains, which are not infrequent in scarlet fever, have not hitherto been noted in rubella. Leclerc records instances of this complication in two sisters. The eldest girl, aged 19 years, on the fifth day of a mild attack of German measles had slight pain in the wrists. The next day these joints became swollen and the temperature, which had hitherto not been above 100° F., rose to 102·2° F. The ankles and knees also became affected, the peri-articular tendon sheaths as well as the joints becoming involved. The affection lasted five or six days. There was no albuminuria. The younger sister, aged 17 years, three days after the appearance of the eruption had pains in the wrists only, without any rise of temperature.

J. D. ROLLESTON.

Atypical varicella (*Wien. med. Wochens.*, No. 24, 1910, p. 898).—**Anna Königsberg**.—A child, aged 13 months, was brought to hospital on April 6 with whooping-cough of a fortnight's duration. On the 11th varicella developed, and fresh lesions appeared during the next six days. None of the spots showed the usual red areola. Death, preceded by double broncho-pneumonia, took place on the 24th. The protracted course of the varicella and the absence of any local reaction are attributed to the influence of the intercurrent pneumonia.

J. D. ROLLESTON.

Varicella in adults (*Montpellier Méd.*, xxx, 1910, p. 405).—**Euziève** and **Caizergues** record two cases in women, aged 42 and 27 years respectively. In the first case the source of contagion could not be discovered; in the second several children in the same house had recently had the disease. Both women had a typical attack, in which the constitutional disturbance was relatively severe.

J. D. ROLLESTON.

Varicella as a cause of nephritis (*Journ. of Amer. Med. Assoc.*, May 28, 1910).—**Beardsley** reports two cases in which varicella was complicated by acute nephritis. One was an Italian girl, aged 6 years, who was brought on account of a definite varicella rash. The temperature was 103·2° F. and the tongue was thickly coated. The patient was slightly delirious. There was a history that she had not urinated for eighteen hours and that the urine when last passed resembled blood. After a hot pack and purgation the urine was found to be highly coloured, sp. gr. 1026, albumin 1·2 grm. (Esbach). Large numbers of granular casts, a few hyaline, and a considerable number of red blood-corpuscles were present. The casts continued for six days and then gradually disappeared, but the albumin persisted for two weeks. Some six weeks later, however, she again attended for "stomach

trouble," when albumin and casts were again found, and these have persisted since. The second case was that of a coloured boy, aged 5 years, who was the subject of hæmorrhagic varicella. The urine was highly albuminous and contained casts in large numbers. Two weeks later there was no albumin, but a few hyaline casts were found. Six weeks later the urine was normal. After a further three months the child developed lobar pneumonia, and the urine again presented the picture of an acute nephritis. Three weeks after convalescence albumin and casts were still present.

T. R. WHIPHAM.

Faucial angina in mumps (*Thèses de Montpellier*, 1908-9, No. 88).—**R. Sassy**.—Faucial angina is a common symptom in mumps; as a rule it runs a mild course, developing before or at the same time as the parotid swelling and disappearing with it by the fifth or sixth day. In rare cases the angina presents a special intensity and may constitute the dominant symptom of the disease. It is then not erythematous, as in the mild forms, but herpetic, pultaceous or pseudo-membranous, and may be accompanied by high fever. In these severe forms the middle ear is not affected, though otitis is an occasional complication of the mild forms. The thesis is based on the study of an epidemic of mumps in a hospital at Montpellier, where 27 out of 115 cases of mumps developed angina. Three cases are recorded in soldiers, two of whom had herpetic and one pultaceous angina. Orchitis occurred in each case. All recovered.

J. D. ROLLESTON.

The blood-pressure in epidemic cerebro-spinal meningitis (*Arch. of Int. Med.*, May, 1910).—**Robinson** finds that increased intra-cranial tension is almost invariably present in cerebro-spinal meningitis. Heightened blood-pressure is often met with in the early acute stages, when exacerbation of the symptoms occur, at a late stage of the disease, and when it has become chronic, and seems to bear some relation to the severity of the symptoms. Lumbar puncture has no constant effect on the blood-pressure, though it is usually accompanied by a fall. The author's observations lead him to the conclusion that heightened intra-cranial tension does not lead to an increased blood-pressure unless it is late in the disease, when internal hydrocephalus may develop as a result of blocking of the foramina of the fourth ventricle.

T. R. WHIPHAM.

Paradoxical manifestations in the urine in cerebro-spinal meningitis (*Rev. de Méd.*, March, 1910).—**Salebèrt** and **Thubert** state that unlike that found in other febrile conditions the urine in cerebro-spinal meningitis is copious and clear and contains an excess of nitrogen and phosphates even when the disease is at its height. Sero-therapy produces only a comparative diminution in the proportions excreted. A fall in the temperature as the result of the injection of serum does not always mean an amelioration of the symptoms, for the proportion of nitrogen may remain high, showing that the disease is still virulent. It is necessary to continue the serum treatment until the amount of urea diminishes.

T. R. WHIPHAM.

A new sign in the rheumatism of childhood (*Arch. of Pediat.*, xxvii, 1910, p. 353).—**J. R. Clemens**, since his previous paper in the *'Archives'* (*vide BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1905, p. 161), has so frequently observed enlargement of the thyroid in the rheumatism of

children that he regards it as a sign of the disease. In some of his cases the thyroid enlargement preceded all other manifestations of rheumatism. In others its appearance was later, the enlargement persisting in association with chronic endocarditis after all the other rheumatic phenomena had disappeared. The degree of enlargement is not great, but is sufficiently pronounced to give an unusual fullness to the neck. Clemens considers that in children with an enlarged thyroid careful inquiry should be made as to a past history of rheumatism.

J. D. ROLLESTON.

Malaria in children (*Grèce Méd.*, xi, No. 18).—**Cardamatis** finds that immunity from malaria in Greece practically extends to the end of the first year. Between the ages of two and seven years children are particularly liable to malarial infection, especially during the third year. Malaria in the mother does not affect the foetus in any way, and it is probable that antibodies may develop in the foetal blood or in the foetal portion of the placenta which combat the malarial germs. Malaria in both children and adults in Greece is chiefly of the tertian æstivo-autumnal type, but children are more apt to develop the chronic than the acute form.

T. R. WHIPHAM.

Hereditary syphilis and Wassermann's reaction (*Berl. klin. Wochenschr.*, July 25, 1910, p. 1402).—**Mulzer** and **Michaelis** report the results of their investigation of the Wassermann reaction in hereditary syphilis and come to the following conclusions: (1) Sucklings with manifest syphilis react in the same proportion as syphilitics in the secondary stage (96 per cent. positive); (2) the positive reaction does not appear till the outbreak of syphilitic symptoms; (3) in children over a year old the proportion is the same as in sucklings; (4) latent syphilitic children give the same proportion of positive reactions as adults in the early latent period; (5) the transformation of the Wassermann reaction through specific treatment appears to be obtained with more difficulty in children than in adults; (6) the mothers of syphilitic sucklings give a positive reaction in the great majority of cases (83 per cent.); (7) when there are several children of syphilitic parents the last born children free from symptoms as a rule give a negative reaction.

C. F. MARSHALL.

Loss of weight in congenital syphilis (*Thèses de Paris*, 1908-9, No. 130).—**R. Lerenard**.—Congenital syphilis in the newly born is sometimes manifested by a more or less considerable loss of weight in spite of sufficient nourishment and an absence of digestive disturbance. In typical cases the loss is sudden, rapid, and progressive. It may occur in the first few days after birth, or not develop until later. It may be associated with fever or various specific lesions, but it is often the only symptom of the diathesis. It has therefore considerable diagnostic value. In fatal cases specific lesions are often found in the liver, spleen, or kidneys. Mercurial treatment adequately administered is usually followed by a gain in weight. The prognosis is therefore favourable.

J. D. ROLLESTON.

Syphilis and rickets (*Bull. et Mém. de la Soc. Méd. des Hôp. de Paris*, xxix, 1910, p. 810).—**H. Dufour** and **J. Huber**.—A girl, aged 10 months, with typical lesions of severe rickets, presented hypertrophic mucous tubercles on the vulva and round the anus. There was no history of syphilis in either parent, but the child's blood yielded a positive Wassermann's reaction. A similar case had previously been recorded by Dufour in a

child, aged 18 months, whose mother had syphilitic hemiplegia. Both mother and child gave a positive reaction. The writers think that fresh light can be thrown on the relations between congenital syphilis and rickets by the use of Wassermann's test on parents and children, and regard early and severe cases of rickets as more frequently due to congenital syphilis than to any other cause.

J. D. ROLLESTON.

The tongue in inherited syphilis (*Thèses de Paris*, 1909-10, No. 308).

—**L. Touret**.—The tongue may present lesions characteristic of each of the periods of inherited syphilis, which Touret has classified according to Gaucher's nomenclature into secondary, tertiary, quaternary and quinary. In the secondary periods mucous tubercles are more frequent than in the adult. They may be difficult to diagnose, especially from the atrophic ulcers described by Parrot. Sclero-gummatous glossitis, characteristic of the tertiary period, is rare, and is clinically identical with that of acquired syphilis. Leucoplasia is found in the quaternary period. Though rare it is of importance as aiding in the diagnosis of inherited syphilis. Quinary inherited syphilis presents certain dystrophies, of which the most constant are exfoliating marginal glossitis and scrotal tongue. The thesis contains thirteen cases, one of which is original.

J. D. ROLLESTON.

Syphilis acquired at birth (*Hospitalstidende*, 1910, No. 22, p. 618).

—**Haslund** records an exception to Profeta's law. A child, aged 5 weeks, presented seven excoriated chancres on the cheek, associated with adenitis in the parotid region. The secretion from the chancres showed the *Spirochaeta pallida*. Wassermann's reaction was negative at first, but was positive a month later. The only secondary symptom was coryza. The mother had been infected during the sixth month of pregnancy, and at the time of delivery had a papular eruption on the vulva.

J. D. ROLLESTON.

Syphilitic chancres in children (*Thèses de Paris*, 1909-10, No. 203).

—**A. Manne**.—This thesis contains the histories of thirty-one cases, many of which are original, of acquired syphilis in children whose ages ranged from nine months to fifteen years. The most frequent modes of contamination are lactation, kissing, and the use of soiled toilet articles, playthings and bed- or body-linen. The seat of the chancre is usually extra-genital, and is most often on the face, which was affected in thirteen out of twenty-six cases of acquired syphilis in children recorded by Fournier. Four cases of accidental inoculation of the genitals are related. In only ten of Manne's cases was the chancre of venereal origin. The duration of the primary lesion in children is transient, and there is much risk of its being unrecognised if the corresponding lymph-glands are not examined. In marked contrast to the congenital disease the prognosis of acquired syphilis in children is usually favourable.

J. D. ROLLESTON.

Gonococcal septicæmia (*Bull. et Mém. de la Soc. Méd. des Hôp. de Paris*, xxix, 1910, p. 712).—**A. B. Marfan** and **R. Debré**.

—A girl, aged 10½ years, was admitted to hospital with pain in the hypogastrium of a week's duration. Her general condition at first suggested typhoid fever, but closer examination showed the existence of pelvic peritonitis and a scanty purulent discharge from the vulva containing gonococci. Auscultation of the heart revealed a loud mitral systolic murmur conducted into the axilla. The blood showed intense anæmia and the presence of gonococci.

The following day pericarditis developed. Wright's vaccine treatment was then instituted, and eighteen and a half million gonococci were injected subcutaneously in the course of ten days. No improvement resulted, and signs of pleurisy in the left lung appeared. Owing to the morphological and biological affinities of the gonococcus and meningococcus, and in this particular case to agglutination of the gonococci in the blood by anti-meningococcic serum, Dopter's and Flexner's anti-meningococcic serums were tried. After the second injection, when the girl had received 25 c.c. in all, a severe serum reaction occurred, and discouraged further injections. It was not till a fortnight later that gradual improvement started. On discharge from hospital after seven weeks' stay the vulvitis and peritonitis were cured, but the mitral incompetence and pericardial symphysis persisted, and were still present when the child was seen nine months later. In the subsequent discussion, **L. Martin** and **Dufour** attributed the symptoms of anaphylaxis to the existence of tuberculosis, which was manifested in the patient by positive cuti- and intra-dermo-reactions, although the ordinary physical signs were absent.

J. D. ROLLESTON.

Rectal gonorrhœa in childhood (*Münch. med. Wochens.*, May 3, 1910).—**Kaumheimer** advises that more attention should be paid to the rectum in cases of gonorrhœa, especially in childhood. An involvement of the rectum may be the cause of intractable vulvo-vaginitis in girls, the infection occurring from time to time after the vaginal lesions have been cured. Rectal gonorrhœa seldom affords any clinical signs and thus may escape detection.

T. R. WHIPHAM.

The cutaneous tuberculin test (*Arch. of Pediat.*, xxvii, 1910, p. 161).—**C. F. von Pirquet** says that a positive reaction means a previous infection with tuberculosis, whether the infection be limited to a single gland or has destroyed half the lungs. The reaction is generally very intense if the infection has just started, or if there has recently been a progress. A negative reaction is not so conclusive as a positive one, for there may not be enough anti-bodies to give the reaction. Hence the frequency of a negative result in the later stages of miliary tuberculosis and tuberculous meningitis. Owing to the frequency of previous infection the test is not of great value in adults, but is especially indicated in the following conditions in children: Chronic intestinal marasmus, bone lesions, emaciation, anæmia, subacute bronchitis, glandular swellings, furunculosis and many other skin lesions, and commencing meningitis. The prophylactic value of the test, which enables one to separate the tuberculous from the non-tuberculous, is illustrated by its recent employment by von Pirquet at an orphan asylum at Baltimore. Of 227 children tested, positive reactions were found in six between one and three years, and in nineteen between four and six years, but not a single child below one year reacted. Von Pirquet thinks that a similar cutaneous diagnosis of syphilis will be possible as soon as the spirochæte can be cultivated and an extract made of the same concentration as tuberculin.

J. D. ROLLESTON.

The cutaneous tuberculin reaction in children (*Nord. Med. Ark.*, 1909, Afd. II, No. 14, p. 25).—**E. Hellesen** used von Pirquet's test in 418 children. He employed old tuberculin either in 25 per cent. solution or undiluted without any disagreeable results; 38 per cent. of the children gave a positive reaction. Of 58 cases of clinical tuberculosis 56 were positive.

The two exceptions had tuberculous meningitis. In 59 cases in which tuberculosis was suspected a positive reaction was obtained in 59 per cent. In the remaining 301 in which tuberculosis had not been suspected, a positive result was obtained in 23 per cent. The percentage of positive reactions rose from 2 in the first year to 46 in the period between 10 and 14 years. Hellesen concludes that a positive reaction in the first year is of value in diagnosis, while a negative reaction is of practical significance throughout childhood.

J. D. ROLLESTON.

Death following the intra-dermo-reaction of tuberculin (*Bull. et Mém. de la Soc. Méd. des Hôp. de Paris*, 1910, xxix, p. 494).—**J. Comby**.—A girl, aged 21 months, was admitted to hospital with an inflammatory swelling of the right thigh. Mantoux's intra-dermo-reaction had been performed eight or ten days previously. A round slough gradually formed, which on separating left a deep ulcer covered by unhealthy granulations. Measles developed shortly afterwards, and death took place, the lesion on the thigh having considerably increased in extent. Comby has never seen any complication with Von Pirquet's cuti-reaction, which he therefore prefers to Mantoux's method.

J. D. ROLLESTON.

Bovine tuberculosis (*Arch. of Pediat.*, xxvii, 1910, p. 448. *New York Academy of Medicine [Pediatrics Section]*, May, 1910).—**Park** is of opinion that there is much more tuberculosis in young infants than is ordinarily believed, and that at the Babies' Hospital (New York City) during the past year the majority of all cases of meningitis were tuberculous, and also a considerable percentage of cases diagnosed as broncho-pneumonia and marasmus. With others he investigated 434 cases; in 296 adults over sixteen there was found only one case of bovine infection (a tuberculous deposit in one kidney), in 54 children between five and sixteen there were 9 cases of bovine infection, and in 84 children under five there were 22 cases of bovine infection. The sparse growth of early cultures of the bovine type as contrasted with the vigorous growth of the human type on glycerine egg was taken as the best cultural test for differentiating the two types. He attributes the greater presence of bovine infection in children under five to the milk supply, as 10 to 20 per cent. of all cattle supplying milk to New York were tuberculous, and suggests that all milk for infants should be obtained under specially clean conditions, and certified free from tubercle bacilli and all other pathogenic bacteria, while for older children the supply should be the pasteurised milk of cows showing no evidence of disease.

J. E. BULLOCK.

Erythema nodosum and tuberculosis (*Thèses de Paris*, 1909-10, No. 196).—**Mlle. Pérel**.—This thesis contains twenty-two cases, ten of which are original, in which erythema nodosum was associated with some form of tuberculosis such as pulmonary tuberculosis, tuberculous meningitis, Pott's disease, tumor albus of knee, and tracheo-bronchial adenitis. In the ten personal cases the intra-dermo reaction was invariably positive, whereas control experiments performed with injections of saline solution, anti-diphtheritic or anti-tetanic serums never produced a nodular reaction (cf. *BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1910, p. 137).

J. D. ROLLESTON.

Erythema nodosum (*Thèses de Paris*, 1909-10, No. 290).—**E. Mallein** thinks that at present there is no justification for affirming the tuberculous

nature of erythema nodosum. The existence of cases in which tuberculosis is present is counterbalanced by those in which even the cuti-reaction fails to show any evidence of the disease. Erythema nodosum may be the sequel of any infection, though it is most frequently met with in connection with gonorrhœa, syphilis, typhoid and tuberculosis, so that it is impossible to affirm in any case the identity of this eruption with the concomitant affection. The thesis contains the histories of twenty-six cases, nine of which are original.

J. D. ROLLESTON.

Herpetiform eruptions following infectious diseases (*'Dermat. Zeitschr.'*, xvii, 1910, p. 307).—**E. Pflugbeil** records a case of a generalised herpetiform eruption occurring on the fourth day of an attack of diphtheria and accompanied by exaggeration of the reflexes, disturbance of sensation, and weakness in the extremities. He has collected six other cases from literature of similar eruptions in the course of diphtheria, including Slater's (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1908, p. 29), three following gonorrhœa, two in cerebro-spinal fever, one after malaria, and six after typhoid or septic infections. Owing to the occasional discovery of the specific micro-organism in the vesicles, Pflugbeil is inclined to regard these eruptions as metastatic products due to the presence of the micro-organisms themselves rather than as angio-neuroses due to their toxins.

J. D. ROLLESTON.

The thyroid gland in infectious disease (*'Thèses de Montpellier'*, 1908-9, No. 89).—**P. Coudray**.—The defensive rôle played by the thyroid gland is manifested by the exaggeration of its secretion and increase in its volume which take place in infectious disease. Complete return to the normal condition may occur, or the hypertrophy may persist and give rise to Graves' disease, or lastly, atrophy of the gland with all the symptoms of thyroid insufficiency may result. The infections in which the reaction of the thyroid is most marked are pneumonia, typhoid fever, rheumatism, and tubercle. Cases have also been recorded after quinsy and syphilis, and Vincent mentions a case of Graves' disease which developed in convalescence from severe scarlet fever. The thesis contains the histories of thirty-one cases, four of which are original.

J. D. ROLLESTON.

Riga's disease (*'Gaz. des Hôp.'*, 1910, p. 930).—**Pironneau** records a case of Riga's disease or ulceration of the lower surface of the tongue in a boy, aged 9 months, in whom the lesion had destroyed the frænum and was invading the tip. The child had recently been suffering from broncho-pneumonia following measles. The ulcer was probably of traumatic origin, being due to constant attrition of the tongue against the lower central incisors, which had appeared at the early age of two and a half months. Extraction of the teeth was followed within three days by complete cicatrization of the ulcer, which had lasted a fortnight and had not been affected by local applications of tincture of iodine and silver nitrate.

J. D. ROLLESTON.

Dilatation of the œsophagus (*'Archiv f. Verd-Krankh.'*, February, 1910).—**Umber** reports typical cases of "pulsion" diverticulum and of diffuse dilatation of the œsophagus in the upper and lower parts. In the first case the patient's father presented a similar condition, thus confirming the congenital tendency to a weakness of the muscle at the junction

of the pharynx and the œsophagus. The internal pressure exerted to propel the food along causes a protrusion of the wall in this situation, and in course of time a diverticulum is formed; hence the name "pulsion" diverticulum. The case of diffuse dilatation serves to prove that marked ecstasia may develop without primary stenosis, and is due to a primary congenital atony of the œsophageal wall.

T. R. WHIPHAM.

Gastric analysis in infants (*Journ. of Amer. Med. Assoc.*, May 7, 1910).—**Sherman**, after a number of analyses, finds that after the administration of barley-water the gastric juice in normal infants yields free HCl 2.1 degrees, total HCl 5.6, total acidity 9, while in children suffering from sour vomiting the amount is free HCl 4, total HCl 10.3, and total acidity 15.8. This shows that the hyperacidity is one of the common causal factors of the vomiting of infants. Clinical experience confirms this, for it is found that longer periods of abstention from milk-feeding are less apt to be followed by sour vomiting. Gastric rest with or without lavage and the administration of alkalis are indicated in these cases.

T. R. WHIPHAM.

Formed meconium simulating intestine (*Arch. of Pediat.*, xxvii, 1910, p. 203).—**R. G. Freeman** was sent for in haste by a practitioner, who stated that he had that morning delivered a woman of a healthy baby, and that the baby's bowel had since protruded from the anus and was turning black. On arrival Freeman found protruding from the anus a cylindrical coil half an inch thick and eight inches long with the characteristic colour of meconium. A photograph is given showing its resemblance to gangrenous intestine.

J. D. ROLLESTON.

Tabes dorsalis in children (*Med. Klin.*, January 23, 1910).—**Spitz-müller** reports a case of tabes in a boy, aged 13 years. There was no history of syphilis in the family, though the boy's serum gave a positive Wassermann reaction. The sudden development of enuresis at the age of nine, as in a number of the cases recorded, was the first symptom to attract attention. Ataxia was marked, but Marburg, who has collected fifty-one cases of infantile tabes, found it to be present in only 56 per cent.

T. R. WHIPHAM.

The early stages of acute anterior poliomyelitis (*Münch. med. Wochens.*, No. 48, 1910).—**Müller**, who has studied a recent epidemic in Westphalia, gives three cardinal signs on which to base a diagnosis in the early stages: (1) A tendency to perspiration, even in children with marked gastro-intestinal symptoms. (2) Extreme hyperæsthesia, which is very characteristic of the disease. This sign appears very early and quickly disappears. In the early stages the patient lies passively in bed, and the slightest movement, especially of the vertebral column, causes him to cry out. There is complete flaccidity of the muscles and often violent pains, especially in the legs. The absence of rigidity thus distinguishes the condition from meningitis. (3) Leucopenia, which persists in spite of the fever. Among other early signs are localised tenderness and weakness of the legs and abdominal muscles, the latter being shown by the presence of meteorism and the absence of abdominal reflexes. Motor paralysis is not observed for some days, and it may be not until after an apparent restoration to health. Frequently there is a great disproportion between the paralysis and the severity of the general symptoms. On lumbar puncture the cerebro-spinal fluid flows

freely. It is always clear, even when containing a large amount of albumin, and shows the presence of lymphocytes. The author thinks that infection enters by the respiratory or digestive tracts or by the tonsils, and spreads along the lymphatics of the nerves to the sub-arachnoid space of the spinal cord, and thence by way of the lymphatics accompanying the vessels of the spinal cord. Hæmatogenous infection is improbable. The reason why the grey matter is affected is partly because it is well supplied with blood-vessels and partly because it has a looser texture. T. R. WHIPHAM.

Paralysis of the neck and diaphragm in poliomyelitis (*Journ. of Amer. Med. Assoc.*, June 11, 1910).—**Snow** saw a boy, aged 4 years, who was suddenly attacked by fever, vomiting, and tenderness in the limbs, neck and trunk. In a day or two there was flaccid paralysis of the cervical muscles so that control of the head was lost, and the reaction of degeneration was present. The spinal accessory nerves were thus affected. At the same time a bilateral paralysis of the diaphragm was observed, indicating involvement of the phrenic nerves. The paralysis of the diaphragm began to improve after the third week and disappeared by the sixth. A jury-mast was fixed to the head, and after six months the cervical muscles had recovered though the sterno-mastoids were still weak. T. R. WHIPHAM.

The cerebro-spinal fluid in two cases of acute meningitis (*Ann. de Méd. et Chir. Infant.*, 1910, p. 153).—**Carles** and **Dupérié**.—In view of the two cases which they report the authors emphasise the superiority of a bacteriological over a cytological examination of the cerebro-spinal fluid. The first case is that of a girl, aged $2\frac{1}{2}$ years, who had suffered for fourteen days from wasting, constipation, and vomiting, and for four days from convulsions, torpor, and headache. She showed the usual signs of meningitis with the exception of rigidity of the neck and Kernig's sign, which were not noted at any time. She died on the twentieth day of disease. Lumbar puncture was done four times, and on each occasion the cerebro-spinal fluid escaped under pressure and was clear. It showed an excess of lymphocytes with a few polynuclear and large mononuclear leucocytes. No tubercle bacilli were found. Meningococci were cultivated from it. Netter and Debré are quoted as stating that in meningococcal cases the cerebro-spinal fluid is clear in 75 per cent. examined in the first day, and in 55 per cent. after the first fortnight of the disease. Salebert and Monziols observed clear fluid with few cells in thirty abortive cases of meningococcal meningitis. In the authors' second case, an example of tuberculous meningitis in a boy, aged 5 years, the cerebro-spinal fluid showed abundant tubercle bacilli, while the cell-examination gave a differential count of polynuclear leucocytes 56·3 per cent., and lymphocytes 43·6 per cent. REGINALD MILLER.

The cerebro-spinal fluid in meningococcic meningitis (*Rev. de Méd.*, March, 1910).—**Mestrezat**, from an analysis of the fluid in three cases of cerebro-spinal meningitis, has deduced the following formula which serves to differentiate this form of meningitis from the tuberculous: Albumin 3 per mille or over; sugar 0·12 to 0·25 per mille; chlorides 6 to 7 per mille; nitrates in the form of sodium nitrate 45 to 55 per mille; freezing-point normal or below. The proportions were found to vary according to the clinical course of the disease. T. R. WHIPHAM.

Influenzal meningitis (*Arch. of Pediat.*, xxvii, 1910, p. 284).—**L. C. Ager** and **O. T. Avery** record a fatal case in a boy, aged 6 months. The

symptoms resembled those of tuberculous meningitis. Forty c.c. of cloudy cerebro-spinal fluid were withdrawn at the first lumbar puncture. At the second only a drop of thick pus could be obtained by suction. At the autopsy both frontal lobes were found to be covered with thick green exudate, which was adherent to the dura at the base in a manner which suggested that the cribriform plate was the entrance of the infection. Two small areas of yellowish exudate were seen over the upper part of the motor area. The brain tissue was very friable, and the ventricles were so distended that they immediately broke through on removal of the brain. The ears were normal. The spinal cord was not opened, but as seen from above was filled with thick milky pus. From the two specimens of cerebro-spinal fluid and from the meninges a pure culture of *B. influenzae* was obtained.

J. D. ROLLESTON.

Rare forms of congenital hydrocephalus (*Ann. de Méd. et Chir. Infant.*, 1910, p. 321).—**Joukovsky**, dealing with those uncommon cases of congenital hydrocephalus in which there is no enlargement of the skull, reports three cases which he has observed. In one a congenital tumour of the pineal gland was the cause of the condition. In the second it was due to the blocking of the aqueduct of Sylvius by a blood-clot, the result of traumatism during delivery. The third he regards as due to meningitis produced during intra-uterine life by the toxins of Asiatic cholera. The mother of this case when six months pregnant had a severe attack of Asiatic cholera. The child was born at full term, and when four days old developed signs of hydrocephalus from which it died on the thirtieth day. At birth the head was normal in size and at first grew slightly, but later diminishing became smaller than its original size before death. Post mortem, hydrocephalus was found to be present, with other changes which the author suggests were the result of the mother's illness.

REGINALD MILLER.

The growth of the brain in infantile hypotrophy (*La Clin. Infant.*, March 15, 1910, No. 6, p. 179).—**Dr. Fayolle**, in his thesis, adduces the following conclusions: (1) The weight of the brain is very high in proportion to the total weight of a new-born infant: it exceeds a ratio of 1 to 10. During the first months of life, a period of intensive growth of the organism from the point of view of weight and height, the brain develops with an extreme rapidity; the weight of the brain doubles itself in six months and triples itself in a year; at two years it exceeds two thirds of the maximum weight it attains in the adult. It must be admitted that the greater part of the work of brain growth is effected at a very early period of existence. (2) In the arrest of growth constituted by hypotrophy, the arrest of brain growth when it exists is never so marked as the arrest of statural, and especially weight increase, and in the majority of instances cerebral growth is not influenced by arrest of general development. (3) Since, in normal infants, the growth of the brain takes place more rapidly than structural or weight increase, this precocity of brain increase is still more marked in the case of hypotrophic infants. The integrity of the brain during struggles against causes which retard growth is on all fours with the phenomena observed in inanition, where the tissues waste while the brain continues to be nourished in a normal degree.

VINCENT DICKINSON.

An unusual prodromal manifestation of epilepsy (*Journ. of Amer. Med. Assoc.*, April 9, 1910).—**Gordon** describes the case of a boy, aged 12

years, who was the subject of *grand* and *petit mal* and developed an unusual aura before the major attacks. Habitually morose, quiet, and of a pessimistic disposition, two days before the attacks he becomes restless and has a desire to embrace and kiss anyone he meets, and finally bites the kissed spot on the face. The kissing is only interrupted by eating and sleeping. Occasionally the kissing is replaced by prolonged laughter. At the same time his appetite is enormous and the excretion of urine is excessive. The author is inclined to think that these peculiar manifestations may be considered as attacks of *petit mal*.
T. R. WHIPHAM.

Leg sign in tetany (*Wien. klin. Wochens.*, March 3, 1910).—**Schlesinger** describes a sign which he thinks may prove the presence of tetany in the intervals between the attacks. With the patient lying on his back if the extended legs are passively lifted the knees show a tonic muscular spasm of extension, while the foot assumes a position of extreme supination or extreme pronation. The sign is also elicited spontaneously if the patient sits up in bed, or when standing bends forwards at the hips. The tonic spasm is preceded by paræsthesia in the limb.
T. R. WHIPHAM.

Amaurotic family idiocy (*Ophthalmoscope*, 1910, p. 493).—**E. Bellingham Smith** gives a full clinical report of a case in a female child, aged 11 months, describing his patient as in the second stage of the disease. In most particulars the case conforms to the usual type as originally described by Waren Tay. The subject is of Jewish parentage and presents slight spasticity, mental torpor, muscular weakness and commencing loss of sight. In the eye-grounds the changes are typical: pallor of the discs and a cherry-red spot in the macular regions, bilateral and symmetrical. The cerebro-spinal fluid as obtained by lumbar puncture was under rather diminished pressure, and was negative to bacteriological examination and to the Wassermann reaction. Three points are of special interest. The patient is the third child in the family, the other two being normal. The muscles of the neck, usually the first to become weak, here retain their power. Thirdly, there is an absence of any shock-like movements which are generally seen in this disease when the sight is severely affected.
REGINALD MILLER.

Surgery.

Malignant hypernephroma in children (*Beitr. z. klin. Chir.*, January, 1910).—**Franck** gives details of the case of a boy, aged about 9 years, who had always been pale and weak. Six weeks after an attack of acute pericarditis the symptoms of malignant disease became manifest and the tumour soon extended into the thorax. This is the fourth case reported of a malignant hypernephroma in children. The others occurred in children between the ages of two and five years, and in one case developed in a horse-shoe kidney. No hæmaturia was observed, but all were extremely malignant.
T. R. WHIPHAM.

The growth of bone against resistance (*Surg. Gyn. and Obst.*, vol. x, No. 4).—**Kerr** describes the case of a boy, aged 10 years, in whom the diaphysis and lower epiphysis of the tibia and part of the astragalus were removed for osteomyelitis. When the acute infection had subsided the lower

end of the fibula was implanted in the upper surface of the astragalus and arthrodesis was performed at the superior fibulo-tibial articulation. As a quarter of the growth comes from the upper epiphysis of the tibia it is important that this part should be retained, and in this case the fibula was used to ensure development. In three years the fibula grew 3.5 cm. and the boy now has a useful leg and foot.

T. R. WHIPHAM.

Plastic bone operation (*'Zentralbl. f. Chir.,'* No. 16, 1910).—**Buttner** removed the lower third of the tibia in a child for a sarcomatous cyst of the bone, the lower epiphysis and small part of the periosteum being left. The upper part of the shaft was then split by means of a Gigli saw and a chisel from the tibial tubercle downwards, half being separated from the periosteum and turned downwards so that the upper end could be implanted in the lower epiphysis. The defects in both parts of the bone were then filled with iodoform bone-wax and the wound was closed. Healing was perfect, and in six weeks the child was walking. There has been no recurrence.

T. R. WHIPHAM.

Intra-human bone-grafting and re-implantation of bone (*'Ann. of Surg.,'* vol. L, No. 6).—**Macewen** had to remove the whole shaft of the humerus for osteomyelitis in a child, aged 3 years. At the end of fifteen months only two inches of bone at the upper end had regenerated. An opening was consequently made between the muscles where the periosteum should have been, and fresh bone-chips, taken from the tibia of a six-year-old boy, were inserted. Some of the chips were covered by periosteum, but most of them were bare. The wound healed, and two months later there was new bone where the chips had been inserted and union with the upper fragment. At this time similar bone-grafts were inserted between the muscles and they also grew. It is now thirty years since the operation, and the arm is useful and has grown in length, though three inches shorter than the sound limb. The growth has occurred almost entirely from the proximal epiphysis, although an increase of one inch has taken place in the region of the chips. In another case, a girl, aged 15 years, part of a rib was inserted into the jaw to replace half of the horizontal ramus which had been previously removed for disease. The rib was resected subperiosteally and wired to the ascending ramus behind and in the mid-line in front. One small portion of the transplanted bone became loose, but the jaw is firm.

T. R. WHIPHAM.

Dry caries of the hip-joint and juvenile arthritis deformans (*Rev. de Chir.,'* March, 1910).—**Rottenstein** and **Houzel** liken the dry form of tuberculous arthritis in the hip to Volkmann's dry caries of the shoulder. The lesions have been described as juvenile osteo-arthritis deformans or atypical coxalgia. Pain, inability to move the limb, and contraction of the muscles are early symptoms, and the absence of granulations and effusion in the joint are characteristic. The condition lasts about two years and ends by ankylosis of the joint. Some cases have been operated upon owing to a mistaken diagnosis, but continuous extension and immobilisation of the joint by means of a plaster-of-Paris bandage to secure ankylosis in a good position is the treatment recommended.

T. R. WHIPHAM.

Ablation of the thymus (*'Presse Méd.,'* April 9, 1910).—**Veau** and **Olivier** describe their method of subcapsular thymectomy for hypertrophy of

the thymus. They have performed the operation in four cases up to the present, and state that it is easy, harmless, and effectual.

T. R. WHIPHAM.

Tuberculous stenosis of the pylorus (*Beitr. z. Klin. Chir.*, March, 1910).—**Von Tappeiner** saw a boy, aged 12 years, who for nine months had suffered from pains in the gastric region and vomiting. The symptoms at first were at intervals, but they gradually became worse until they occurred after every meal and the patient lost considerably in weight. Gastro-enterostomy was done as stenosis of the pylorus of a tuberculous nature was diagnosed, and this proved to be correct. The patient subsequently showed a marked improvement in spite of the fact that at the operation his condition did not permit of a resection being performed. Twenty-six similar cases are reported in the literature: eight of these underwent resection and the rest gastro-enterostomy, excision of the ulcer, pyloroplasty, or merely an exploratory laparotomy. Nearly all died within a year from a dissemination of the disease in other organs. Four of the cases were under the age of twenty.

T. R. WHIPHAM.

Ileus in children (*Arch. f. klin. Chir.*, xci, No. 4).—**Alapy**, from a study of forty-five cases from a few weeks to fourteen years of age, states that in older children the conditions resemble those in adults, but in younger ones more is to be learned from palpation. Megacolon and invagination occur almost exclusively in children and are easily recognised. There were only five cases which did not belong to either of these classes. In ten cases preceding appendicitis was responsible for the ileus. The signs of invagination are always alike, and absence of rigidity in the abdominal walls is a noticeable feature. Prompt operation, doing as little harm as possible, is often essential, and enterostomy should be done more readily, perhaps, than in the case of adults. Resection is rarely necessary for invagination. If it is difficult to reduce it is due to defective technique and not to adhesions. In many forms of occlusion of the intestine in children medical measures alone may be given a trial, but only for a short time. The ileus must be quickly reduced as children have less resisting powers than adults. When the ileus is strangulated, an opening above does not restore the circulation in the parts below, but enterostomy allowing the escape of gas and faeces followed by suture of the incision at once may give great relief and lead to a favourable result. Even with supposed strangulation an enterostomy may cure, as the diagnosis may have been wrong, and the child should be given the benefit of the chance. The permeability of the intestines became spontaneously restored after enterostomy in all the cases of ileus from adhesions without even the necessity for separation of the adhesions. The ileus in these cases is generally the result of some error in diet and the enterostomy allows the removal of the offending material.

T. R. WHIPHAM.

Appendicitis in children (*Pediatrics*, xxii, 1910, p. 413).—**Wood**, referring to the special features which differentiate appendicitis in children from the disease in adults, states that, anatomically, the appendix is relatively larger and longer in the child; the walls are thinner and the meso-appendix shorter, the entrance from the caecum is funnel-shaped, the lumen larger, the mucous membrane smoother, the valve of Gerlach often ineffective to prevent foreign bodies or morbid materials entering the tube; and the omentum is

relatively smaller and less capable of walling in a gangrenous and perforated appendix. Pathologically, appendicitis in children induces a greater effusion of serum, and as lymphoid tissue is more abundant and the blood-supply poor, gangrene and early perforation are more common in the child. Abscesses are more likely to form and to rupture, there is a greater tendency to spreading peritonitis, and toxæmia is more rapid and intense. Clinically, appendicitis in the child is more sudden in its onset, rapid in its progress, and intense in its symptoms. The unstable condition of the nervous system in childhood may lead to confusion or error, and may delay or prevent a positive diagnosis; right-sided pleurisy or pneumonia with pain, tenderness and rigidity in the right iliac fossa may render the clinical phenomena vague and misleading. An abnormal position of the appendix (common in children) may give pain and other symptoms in the left side of the abdomen, in the epigastrium, or under the costal arch. He thinks that the cardinal symptoms which point to appendicitis in the adult are irregular, uncertain, and of little diagnostic value in the child; a late diagnosis is too often arrived at, leading to a high mortality, whereas an early diagnosis is imperative, followed by immediate operation.

J. E. BULLOCK.

Ventral hernia with ectopia of the heart (*Bull. de l'Acad. de Méd.,* March 1, 1910).—**Kirmisson** reports the case of a child who was born with a ventral hernia just above the umbilicus, and another tumour above it, also in the middle line. The latter proved to be the apex of the heart presenting through a cleft in the sternum. The case is identical with that described by Vaquez and Foy, in which the patient, a man, lived until thirty-seven years of age. The author could only find two other similar cases in the literature, but Lamelongue has a patient, aged 22 years, and still in good health, upon whom he operated when a fortnight old for a similar ectopy. In this case the apex of the heart protruded through a cleft in the upper part of the sternum and also through a gap in the skin. As the opening began to constrict the organ a plastic operation was performed with an excellent result. The patient, a woman, is in perfect health and is the mother of three children. There are no abnormal auscultatory signs in the heart, and the absence of pericardium is not felt. No adhesions formed after the operation.

T. R. WHIPHAM.

Pathology.

Experimental diphtheria in the chimpanzee (*Ann. de l'Inst. Past.,* xxiv, 1910, p. 114).—**E. Burnet**, working in Metchnikoff's laboratory at the Institut Pasteur, inoculated nine chimpanzees with pure cultures of diphtheria bacilli, or with membrane recently removed from human patients. Three methods of inoculation were employed: (1) Rubbing the membrane or painting the culture on the intact mucous membrane of the tonsils; (2) the same operation after scarification or puncture of the mucous membrane; (3) insertion into the nasal fossæ. Seventeen inoculations were made, of which five produced mild lesions consisting of a more or less extensive exudation containing diphtheria bacilli associated with other organisms. In only one case were the lesions very extensive, and the animal died six days after inoculation. The remaining eleven inoculations proved unsuccessful. Paralysis did not occur in any case. Inoculations with pure cultures of diphtheria bacilli had no effect, but all the lesions produced were due to inoculation with membranes. Attempts to inject lower apes were unsuccessful.

J. D. ROLLESTON.

The diagnostic value of the *Spirochæta pallida* in the umbilical cord (*Boston Med. and Surg. Journ.*, May 12, 1910).—**Emmons** has searched for the *Spirochæta pallida* in the umbilical cord in thirty cases which were presumably syphilitic and finds that the organisms are rarely present in the cords of newborn infants. When present they occur in considerable numbers in the muscularis of the umbilical vein, especially near the child's umbilicus. Owing, however, to the frequency of negative findings a routine examination of the cord on these lines is hardly justified.

T. R. WHIPHAM.

The vascular pathology of congenital syphilis (*Cleveland Med. Journ.*, 1910, p. 339).—**O. T. Schultz** regards a widespread involvement of the smallest vessels as more characteristic than the diffuse fibrosis which may occur. The first vascular change, which is due to the localisation of the treponemata in the terminal vascular ramifications, consists of a hyperplasia of the endothelium and a slight perivascular lymphoid infiltration. When this change becomes extreme it forms the earliest stage in the formation of a gumma. In the medium-sized and in the largest vessels an inflammatory reaction characterised by the presence of lymphocytes and young connective tissue cells may occur in the adventitia and media. In congenital syphilis the involvement of the arterioles and capillaries is more widespread than in the acquired disease. The pathological change in the larger vessels is the same in both forms of the disease, and is the expression of the entrance of the treponema into the lymphatics and capillaries of the vessel-wall. Further changes depend upon the intensity of the infection and of the tissue reaction. When the infection is slight a nodular area of sclerosis may be produced; if it is more intense the tissue reaction is more marked and diffuse; in extreme cases a gummatous arteritis results.

J. D. ROLLESTON.

Infection from "*Leishmania infantum*" in dogs (*La Pediat.*, April, 1910, No. 4, p. 241).—**Prof. Jemma** with **Drs. Gristina** and **Cannata** have conducted a series of experiments by injecting splenic blood from children affected with the disease into dogs. From the results they came to the conclusion that not all the dogs injected resisted the infection, whether it were made intra-peritoneal or intra-venous. When the animal contracted the infection it became cachectic and lost weight, had slight oscillations of temperature and changes in the blood. The infection contracted by the dog seems analogous to that observed in man, since in both there is tendency to cachexia. The histological changes in the various organs were those of fatty degeneration and endothelial proliferation.

VINCENT DICKINSON.

Infantile splenic anæmia; blood changes (*La Pediatria*, May, 1910, No. 5, p. 323).—**S. Cannata** examined the blood in five cases of splenic anæmia associated with Leishman's parasite. He found the hæmoglobin content always diminished, varying from 75 per cent. to 45 per cent. In the same subject it diminished when the disease became more severe and increased during periods of improvement. The red corpuscles were usually diminished in number; only in one case did they reach 4,000,000. Their form and colour varied in fresh preparations according to the condition of the patient. Only in one case were there poikilocytosis, normo- and megal-

blasts, polychromatophilia; in all the rest nothing of importance was noticed except a slight polychromatophilia. The globular value varied in different children and according to the course of the disease. Generally it oscillated round unity, being a very little either above or below. The number of white corpuscles also varied in different children; in no instance did it reach a high figure, the maximum being 20,000 and the minimum 7200. It underwent remarkable variations in one case, falling from 16,000 to 9700 in seven months; in another case it was 14,500 in March, 9520 in April, 20,000 in November, and 7200 in February. Mononuclears were often found to predominate over polynuclears. In the majority of cases the small mononuclears predominated, but this was not constant. Among the large mononuclears a few myelocytes with neutrophile granules were found in all the cases. In a word, the blood varied not only in different cases but also in the same subject in different periods of the illness. This, in the opinion of the author, depends on the fact that the reaction of the organism to Leishmanian infection also varies according to the age and constitution and gravity of the infection. Hitherto great importance has been attached to the blood examination in the diagnosis of splenic anæmia, but this has lost its importance now that the specific agent has been recognised. The surest way of establishing a diagnosis is the discovery of Leishman's parasite in the splenic blood; sometimes the parasite is only discoverable after several splenic punctures.

VINCENT DICKINSON.

The elastic tissue of the spleen in certain diseases of children (*Lo Sperimentale*, 1909, p. 45).—G. Menabuoni examined the elastic tissue of the spleen in twenty-four children who died from diphtheria between the ages of ten months and eighteen years, and of thirty-four children between the ages of five days and eleven years who died from various diseases. He finds that in acute diseases, *e.g.* diphtheria, typhus, broncho-pneumonia, scarlatina, etc., the elastic tissue did not undergo any marked alteration; in rickets, in the majority of cases, especially if well marked, the elastic tissue was increased in the same proportion as the connective tissue; in prolonged congestion the same result was noticed. The elastic tissue of the spleen is present normally in variable quantity within wide limits and seems to increase with age. Syphilis and rickets are frequent causes of an increase both of connective and elastic tissue. In the amyloid degeneration of tubercle the elastic fibres may disappear entirely from the degenerate zone. In infants there is swelling, breaking up, and eventually disappearance of the elastic tissue. In infantile splenic anæmia there may be increase of elastic tissue if the sclerosis is much advanced, but if this is not evident the elastic tissue shows no distinct change.

VINCENT DICKINSON.

Experiments on the functional activity of the mammary gland (*La Pediatria*, April, 1910, No. 4, p. 253).—G. D'Errico, experimenting with bitches, found that (1) the *intra-venous* injection of the defibrinated blood of a pregnant bitch into a suckling bitch produced a temporary arrest in the secretion of milk; (2) the *subcutaneous* injection of the same blood of a pregnant bitch had no effect on the lacteal secretion; (3) the *intra-venous* injection of the defibrinated blood of a *normal* bitch did not modify the lacteal secretion.

VINCENT DICKINSON.

Treatment.

Diphtheria antitoxin in non-diphtheritic angina (*Gaz. des Hop.*, 1910, p. 929).—**G. Mouriquand** records five cases resembling diphtheria in their local and general symptoms but distinguished from it by the absence of Klebs-Loeffler bacilli. Though examination of the throat showed cocci only, injection of antitoxin was followed in each case by rapid separation of the membrane which had resisted the action of local measures. Mouriquand follows Mongour and Cruchet, who have reported similar cases, in regarding diphtheria antitoxin as specific not only for Klebs-Loeffler bacilli but for several other micro-organisms. J. D. ROLLESTON.

Treatment of whooping-cough and catarrh of the air-passages by abdominal massage (*Fortschr. der Med.*, February 17, 1910).—**Hönck** has previously called attention to the connection between catarrh of the upper air-passages and irritation of the abdominal sympathetic nerves. He finds that massage of the abdomen is almost a specific in many cases of whooping-cough free from febrile complications, though mild fever in itself is no contra-indication. Cautious massage is applied to the back on both sides of the spine. In a number of cases whooping-cough was thus cured in three weeks at most, but when he stopped the massage after a week the attacks became more frequent and violent. Cough from a tickling sensation in the throat, he says, is also controlled by this method of treatment.

T. R. WHIPHAM.

The serum treatment of epidemic cerebro-spinal meningitis (*Med. Klinik*, 1910, p. 580).—**Mathilde Lateiner**.—During the last three years 50 cases were treated in the children's section of the Kaiser Franz Joseph Hospital in Vienna. The diagnosis in each case was confirmed by bacteriological examination. Eighteen were sucklings, 11 were children up to the third year, 9 up to the sixth year, and 12 were above that age. Twenty-four were treated with lumbar puncture only, with a mortality of 70 per cent., and 26 with lumbar puncture followed by injection of serum. Five, of whom 3 died, were treated with Ruppel's dried serum subcutaneously. Twenty, of whom 8 died, received intra-spinal injections of the serum from the Vienna sero-therapeutical institute, and in one case both serums were used. On exclusion of the sucklings the results from the employment of serum were still more satisfactory, the mortality being 26·6 per cent. among the injected as contrasted with 72·7 per cent. among those not injected. Lateiner attributes the rarity of hydrocephalus among her cases to the employment of lumbar puncture, for whereas among Weiss-Eder's 43 cases and Jehle's 96 cases hydrocephalus developed in 18 and 17 cases respectively, this sequel occurred in only one of the present series, exclusive of two in whom it was present on admission to hospital. Of the 21 patients who were discharged recovered the subsequent history was learnt in 13. Two had died, one a year later from tuberculous peritonitis, and the other four months later, cause unknown; one was deaf and dumb; and another was ill-developed mentally and physically. The condition of the remaining 9 was satisfactory.

J. D. ROLLESTON.

Cerebro-spinal meningitis treated by intra-ventricular injections of Flexner's serum; recovery (*Pediatrics*, xxii, 1910, p. 222).—**L. Fischer**.—A girl, aged 2 months, breast-fed, was admitted to hospital on

the fourth day of an attack of cerebro-spinal meningitis. Three successive lumbar punctures yielding a "dry tap," the right lateral ventricle was punctured by an aspirating needle introduced at the right angle of the anterior fontanelle and 15 c.c. of turbid fluid were withdrawn, smears from which showed meningococci. The ventricles were then irrigated with normal saline solution at 105° F. After the excess of fluid had drained out, 25 c.c. of Flexner's serum were injected into the ventricle. Intra-ventricular injections of serum preceded by irrigation were performed on two subsequent occasions, 65 c.c. in all being used; 37 c.c. were also introduced by the intra-spinal route. The child, which was nursed at the breast throughout the disease, was discharged in good health after two and a half months' stay in hospital.

J. D. ROLLESTON.

Ehrlich's new remedy for syphilis (*Berl. klin. Wochenschr.*, July 25, 1910, p. 1491).—**L. Michaelis**.—The new arsenical preparation, dioxo-diamidoarsenobenzol, introduced by Ehrlich for the treatment of syphilis, is said to cause the manifestations of syphilis to disappear after one injection. The substance was prepared by Ehrlich in the form of a hydrochlorate, but as this is unsuitable for injection owing to its acid reaction Michaelis uses a neutral suspension of the drug (obtained by dissolving in excess of soda and neutralising by acid). Michaelis reports the case of a congenitally syphilitic infant, aged 5 weeks, in whom palmar and plantar syphilides and a general maculo-papular eruption disappeared after a single intra-muscular injection of 0.06 grm. of the drug. The alleged remarkable effects of this new preparation require further confirmation before they can be accepted. It also remains to be seen whether this drug is free from the danger of causing optic neuritis, a danger which has, or should have, caused the new arsenical compounds, atoxyl and the rest, to be abandoned.

C. F. MARSHALL.

Treatment of vulvo-vaginitis in children with gonococcal vaccines (*Hospitalstidende*, 1910, No. 27, p. 891).—**H. Boas and O. Wulff**.—Two cases of gonorrhœal vulvo-vaginitis were treated with gonococcal vaccine only and showed absolutely no improvement. Seven cases who were given local treatment as well as the vaccine had a more protracted illness than seventeen other cases who had the same local treatment without the vaccine. The opsonic index, which was below the normal before the vaccine treatment, rose under treatment.

J. D. ROLLESTON.

Auto-sero-therapy of tuberculous peritonitis by continuous subcutaneous drainage (*Med. Klin.*, April 10, 1910).—**Evler** applies the principle of auto-drainage recently introduced in the treatment of hydrocephalus to the ascites of tuberculous peritonitis. The recti muscles are separated and the peritoneum is sutured to the opening thus made, so that there is a permanent fistula into the subcutaneous tissue. Over this the skin is completely sutured. The ascites thus drains away and induces an auto-sero-therapy. In the patient operated upon improvement was marked from the first: the ascites did not recur and weight was rapidly gained.

T. R. WHIPHAM.

Treatment of the early stage of acute anterior poliomyelitis (*Münch. med. Wochens.*, No. 49, 1909).—**Hohmann** advocates the method

adopted by Lauge, who, noticing that the slightest movement of the spinal column in the initial stages of the disease caused evident pain, applied a plaster-of-Paris jacket, with the result that the pain was perceptibly diminished within a few hours. The fixation of the vertebral column also probably modifies the inflammatory processes in the spinal cord, and is in accord with Oppenheim's suggestion that the patient should be put to bed and protected as far as possible against all forcible or active movements.

T. R. WHIPHAM.

The operative treatment of spastic diplegia (*'Deutsch. med. Wochens.,'* May 12, 1910).—**Hevesi** applied Foerster's operation of resecting the posterior nerve-roots in a child, aged 11 years, who was the subject of spastic diplegia. The child had never been able to walk without aid, but after laminectomy and resection of three or four of the posterior roots on either side in the lumbo-sacral region walking alone was possible after seven weeks. No special sensory disturbances nor ataxic symptoms were noted.

T. R. WHIPHAM.

The treatment of convulsions (*'The Therapeutic Gazette,'* July 15, 1910, p. 495).—**Chapin** gives a few concise directions for the immediate treatment of convulsions in children, as follows: The application of ice or a cold compress to the head; immersion of the feet and legs in water comfortably hot to the hands of the nurse, this partial bath being as efficacious as total submersion, and allowing of treatment by the bowel; a simple enema will often bring away undigested masses, after which the convulsions may cease. If the child can swallow, 3 to 5 gr. of potassium or sodium bromide can be given at intervals of ten minutes as required. If the child cannot swallow he recommends 3 to 5 gr. of hydrate of chloral injected *per rectum* by a small piston syringe; this may be repeated in a quarter of an hour if distinct improvement is not noted. In intractable convulsions accompanying organic disease of the brain, when bromides by the mouth and chloral *per rectum* are of no avail, he recommends a few whiffs of chloroform from time to time.

J. E. BULLOCK.

Reviews of Books.

THE DISEASES OF INFANTS AND CHILDREN. BY EDMUND CAUTLEY, M.D., F.R.C.P. London: Shaw and Sons, 1910. Pp. 1042. Price 27s. 6d. net.

THE object of this work on diseases in children, as stated in the preface, "is to describe the ailments of children in a form suitable for the general practitioner of medicine, and sufficiently detailed to render further reference to other works unnecessary, except in the case of unusually rare diseases." This object the author has fully obtained, for there is no other book so complete and so detailed with regard to this branch of medicine. The volume must necessarily be one of reference, for it is so large that it is impossible for anyone to read it as an ordinary text-book. Nevertheless it is very complete, as there is scarcely a single subject associated with

disease in children which is not mentioned in it. Every subject is dealt with in a systematic and concise manner, so that it can easily be understood by the reader. Great advance has lately been made in the knowledge of disease in early life by the formation of the Society for the Study of Disease in Children, in 1900, which, after eight years of active and useful work, became amalgamated with the Royal Society of Medicine, and also by the foundation of the *BRITISH JOURNAL OF CHILDREN'S DISEASES* by the late Dr. George Carpenter in 1904. There was therefore an urgent necessity and a splendid opportunity for an up-to-date book on the subject. Dr. Cautley's book meets this necessity most worthily, and too much praise cannot be given to the author for the great amount of work he has undertaken in producing it, and for the diligence with which he has collected everything of importance dealing with disease in children. The book comprises twelve sections, which are divided into seventy-three chapters. The sections are under the following headings: General factors; affections of the new-born; disorders of metabolism, nutrition, and growth; the alimentary system; the respiratory system; the circulatory system; the hæmopoietic system; the urogenital system; the nervous system; the skeletal system; infective disorders; and the special sense organs.

The chapter on the medical examination of children is full of useful hints, and demonstrates how very completely the author has mastered the psychology of childhood. Chapter III is especially worthy of notice, for it is devoted to diet and nutrition, and is a valuable contribution of over forty pages. The tables in this chapter are very helpful.

There are numerous tables scattered throughout the book, which greatly increases its value. None of these tables are superfluous. The synonyms of the various diseases are given; in many cases, however, the synonyms are very numerous, and in some instances they appear rather exaggerated and far-fetched. Certain diseases are rather overlaid with personal titles, and this seems to us undesirable, especially so where the disease is given only the describer's name, as "Buhl's disease," "Winckel's disease," "Sprengel's deformity," etc.

There are no diagrams, illustrations, or charts, and the author gives very plausible reasons for their absence in the preface, in which he writes: "The kindergarten teaching of medicine by pictures, diagrams, and models is advantageous for the student, but may prove a disadvantage to those in active practice. Photographs and drawings, except of pathological states, are of little value unless so typical that the veriest tyro can recognise the disease from a description. They are injurious in that the expectation of seeing the typical cases of pictorial illustration increases the danger of overlooking those early stages in which disease is amenable to treatment."

The treatment of disease, which is usually a weak point in most textbooks of medicine, takes a prominent place, for it is very thoroughly described. The different modes of treatment are discussed, and scarcely any modern method is left untouched. The author has dealt very systematically with the differential diagnosis of disease in children.

We prophesy a brilliant future for this book, for there is no other in the English language so complete. There is no loose writing as might be expected to be found in so large a work. We can thoroughly recommend 'The Diseases of Infants and Children' to all practitioners of medicine, for they will find it a most valuable book to which they can confidently refer.

DIE ORTHOPAEDIE DES PRAKTISCHEN ARZTES. By SAN.-RAT Dr. GEORG MÜLLER. Berlin and Vienna: Urban and Schwarzenberg, 1910. Price M. 8, paper cover; M. 10, bound.

Dr. GEORG MÜLLER's book is essentially a practical treatise on orthopædies, dealing as it does solely with those abnormal conditions of the bones and joints which result in physical deformity. It appeals, therefore, especially to the children's surgeon.

The work is divided into two parts. The first, which deals with the general methods of treating orthopædic cases, includes chapters on the various forms of splints and artificial supports, on massage and exercises, and on Bier's treatment by inducing hyperæmia, the value of which is enhanced by illustrations. The second, or "special" part, constitutes the greater part of the book, and is devoted to a consideration of the clinical and pathological aspects of the subject matter. Beginning with torticollis and ending with hammer-toe the various orthopædic affections are dealt with in consecutive order. In the chapter on "The Deformities of the Spine" special mention must be made of the sections dealing with scoliosis and tuberculous spondylitis, in which a clear and concise account of the ætiology, signs and prognosis is given together with a detailed and illustrated description of the various methods of treatment. In "The Deformities of the Upper Extremity" the different dislocations of the shoulder and Sprengel's deformity are considered together with the abnormalities of the elbows and the various defects and deformities of the hands and fingers. In "The Lower Extremity" the parts on congenital dislocation of the hip and tubercular disease of the hip and knee are excellent, the details of treatment being given with great minuteness. The condition of genu valgum also has received the author's special attention and merits equal commendation. In this and other conditions in which osteotomy is called for Dr. Müller shows a preference for the various forms of Heussner's osteoclast. Other diseases of the hips and knees are also dealt with and their appropriate treatment described, and the closing chapters of the book are concerned with tuberculosis of the ankle-joint and the various deformities of the foot and toes.

The book is one which we can recommend to the orthopædic surgeon as a useful and reliable work of reference. It is thoroughly practical, the details of technique being admirably and concisely set forth: it is, moreover, not difficult reading. The value of the treatise is increased by the illustrations of operative procedures and the different forms of splints and apparatus. The reproductions of photographs, of which there are some 150 altogether in the text, are in every way excellent, but some of the skiagraphs are a little disappointing.

There is no index, but a detailed table of contents at the beginning renders one almost unnecessary, as the various conditions are dealt with in their anatomical order. The type and printing are clear and good, but as is the case with many German books, the cover is merely of paper and the stitching is bad.

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

VOL. VII.

OCTOBER, 1910.

No. 82.

Original Articles.

AT WHAT AGE SHOULD THE EDUCATION OF THE DEAF
CHILD COMMENCE ?*

By MACLEOD YEARSLEY, F.R.C.S.,

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IN this paper it is neither my intention nor wish to encroach upon the opinions of those who, engaged upon the arduous work of educating the deaf, are entitled by experience to speak with authority, but rather to open a discussion upon the important question of the age at which that education should commence and to bring thereto what help I, as a medical man, can offer.

I shall, therefore, first review very briefly the courses followed by different countries, and, in comparing the education of the normal with that of the deaf child, offer certain observations which seem to me to give strong physiological reasons for commencing the education of the deaf at a much earlier age than has hitherto been considered advisable, using the term "education" in its physiological rather than in its pedagogical sense.

Legislators stand in urgent need of information and guidance, which only the experienced teacher and the experienced doctor combined can give, and the proposal to be made at the conclusion of this

* Paper read at the Third International Congress on School Hygiene, held in Paris, August, 1910.

paper is intended as an endeavour to provide this information with a view to advance the oral education of the deaf towards its proper goal—ability to march abreast with the normal population.

Space will allow of an enumeration only of the ages at which education is compulsory in different countries and states.

According to M. Adolphe Bélanger,* it appears that in France the age of admission to the schools varies considerably, and the general effect is to reduce it. Although some pupils commence at six years and sometimes earlier, circumstances seldom allow them to enter the schools before eleven or twelve.

Signor Ferreri has pointed out that in Italy “there is no law to oblige the Government, on the one hand, to give, and the deaf, on the other hand, to receive an elementary education,” so that 73 per cent. remain in ignorance and isolation.

In Germany children attend compulsorily from the age of six to fourteen.

In Denmark instruction commences at eight ; in Holland at about seven, under certain circumstances even a little less.

In the British Islands the majority commence at about seven, but in some schools they are received at five. In England it is compulsory that all deaf children should begin their education at seven, but a Government grant can be obtained for them if they enter at five. Ireland lacks any legislation on the subject.

In the United States a somewhat better state of things exists, and requires more attention here. Few schools, it is true, receive children earlier than seven, but there are pupils in the Pennsylvania Institution for the Deaf and Dumb one year younger. Dr. Kerr Love has remarked † that experimental work upon a colossal scale is being pursued in America, and that the orally taught deaf of the United States are the best taught deaf in the world. Moreover, there is a tendency in America not only to keep the deaf child at school later in his life, but—and this is of immense importance—to *take him in hand very early*. This is done at Boston under Miss Fuller, at Chicago under Miss McCowan, and at Bala (near Philadelphia) under Miss Garratt. The latter lady, taking children at four, three, or even two years, claims that they can enter ordinary hearing schools six or eight years later. This school is spoken of very highly by Dr. Kerr Love and Mr. F. G. Barnes, although I understand that both these gentlemen doubt the wisdom of handing such seriously handicapped children over to ordinary hearing schools.

* International Conference held in Edinburgh, 1907.

† ‘The Study of the Deaf Child.’

I have no desire to express any opinion as to the wisdom of taking children early for oral training with the intention of transferring them later to hearing schools, because I have no practical knowledge thereof and do not care to form any judgment thereon from printed reports or from hearsay evidence. But I do believe that the practice, which appears universal, of making no effort for compulsory training before six years or even later, is the greatest mistake and the most potent cause of failure in the oral training of the deaf.

This view I must endeavour to substantiate to the best of my ability. To do so, the physiological education of the normal must be compared with that of the deaf child.

Between the ages of two and seven the hearing child is rapidly developing, whilst his deaf brother is at a standstill. To you I need not insist upon the fact that between these ages the hearing child is receiving items of education, every minute of his waking life, through the channels afforded by his organs of hearing, so that not only are speech and language being continuously impressed upon his cerebral cortical centres, but they are by ceaseless reiteration becoming stored up both as sensory and motor memories. By this constant repetition, and by the intimate relation between the language appreciating centres and the language producing centres, speech becomes automatic before the education of those centres which are concerned with writing and more difficult language training begins, centres which are of later development in the history of the race than are those of mere speech, and which are preceded in the normal child by a pre-speech era of gesture language. It is this pre-speech era of gesture language which becomes more fixed and, therefore, easier of use in the deaf child, to the detriment of oral training. This fact of automatic speech is of great importance, and I think that, by training the speech centres in the deaf at an earlier age, we might help them at least to approach the automatism of the hearing child.

The inestimable value of hearing in the physiological education of the speech centres in the normal child is strikingly demonstrated when we compare the blind with the deaf. Although the former defect receives considerably more sentimental sympathy from casual observers than does the latter, the blind child has far less difficulties in education. It is true that one of the main entrances of instruction is closed for him, but it is one by which general effects rather than exact thought impressions reach his brain. So long as he has hearing, his speech progresses with practically the

same rapidity as in the normal child, and in this regard his intellectual development proceeds at a nearly equal rate. The congenitally deaf child obtains his general effects though his visual organs, but, by reason of his aural defect, he can neither obtain expressions of exact thought nor formulate his own thoughts in exact terms. Consequently he begins his school life at seven in the intellectual condition of a child of two. In plain words, for five precious years his intellectual development is arrested, and this is, as Dr. Kerr Love points out, physically expressed by his relatively smaller head.

There is yet another important fact—the question of *hereditary tendencies to speech*. We represent the, at present, “last word” of a long line of speaking ancestors, a line so long that the first members thereof who could speak must have existed untold ages back in the world’s history. Such an evolution has slowly elaborated those portions of the central nervous system concerned with speech from the very beginnings of our remote ancestry, and the power of developing similar structural connections of nerve-cells and fibres has been handed down through countless generations and rendered more and more perfect by each, until we have been born with a potentiality of developing as complex and perfect nervous arrangements as those of any individual who has preceded us. Thus has the centre for speech been made apt for expressing exact thought, and this was strikingly evidenced when Miss Helen Keller made the demand, “I must speak,” a demand which also demonstrated that, not only is there an hereditary tendency to speak, but also an hereditary tendency to develop the general faculties *through* and *by* speech. Are we not neglecting an obvious duty, as well as opportunities, when we take no heed of these hereditary tendencies? We ignore them whilst the deaf-born brain is still plastic, suffering them to remain dormant and to perish from inanition. Are they not equally as precious as the “rests of speech” we seek to foster in the child who has become deaf after speech has been already partially acquired? Or as valuable as any remains of hearing in the semi-deaf?

On these arguments I contend that an education of the deaf should be made compulsory at a much earlier period than is at present customary.

At a council of (British) headmasters held in 1904, it was resolved to be desirable that deaf children should be placed under proper training at or near the age of five years, and the Norwich Conference of the (British) National Association of Teachers of the

Deaf in 1905 further resolved that this earlier education should be made compulsory. A protest from certain teachers elicited an eloquent rejoinder from Mr. Arthur J. Story, in which his conclusions so thoroughly coincide with my own that I venture to call them to my support for compulsory training at an earlier age.

I would summarise my arguments as follows :

(1) The child who is normal, save for his deafness, is engaged in a continual struggle to make himself understood and to understand those about him ; but, unlike the hearing child, his natural yearnings—including his hereditary tendencies to speak—have to go unsatisfied. The deaf child finds some form of expression essential and endeavours to evolve one which can act as a vehicle of thought. Without oral speech he has to elaborate that gesture language which I have already mentioned as belonging to the pre-speech era, and, thus suppressing the play of hereditary speech tendencies, substitutes gesture for speech, a substitution which renders the later acquisition of speech more and more difficult as time goes on. Even if the earlier speech training which I advocate did not obviate this expression by gesture, we should, at least, give the child the opportunity of becoming bi-lingual, thinking simultaneously in elementary speech and signs.

(2) The hearing child develops intellectually without any special care, and he physically outgrows his infancy at about five years of age. Why, when it is in our power to make him early aware of speech as a means of intercourse and for the expression of his ideas, should we prolong this mental babyhood beyond that of the hearing child by denying him an earlier training ? Why should he be forced to remain infantile in mind and denied the means of mental development ?

(3) The plastic brain period of the child is past at seven years, and to delay physiological education until that time is like attempting to model clay that has become dry, save that the clay can be wetted anew, whilst the brain-clay of the child is past moistening. Moreover, the muscles which control the speech organs become to some extent atrophic from disuse if not developed—a circumstance which cannot fail to react disadvantageously upon the speech centres. "Is it not necessary," asks Bélanger, "to use the larynx as soon as possible ? That delicate organ which ought to be the pivot of our method of instruction !" The bad effects of the neglect of the speech organs under our present methods of oral instruction when the plastic period is past are plainly shown by the artificiality of speech taught when the vocal organs have been for years in comparative idleness.

(4) The importance of "rests of speech" is universally recognised, and they can be irrevocably lost by neglect. Why should we not recognise the equal value of the hereditary tendencies to speak and to develop the faculties of intelligence through speech, assets which are, probably, more quickly perishable.

(5) It is acknowledged by law and practice that hearing children should begin their pedagogical education at five years. Why should not an equal right be accorded to the deaf? But, further, the hearing child is receiving what I have termed "physiological" education at a much earlier age, and I claim that the deaf child has an equal right to this early physiological education, and, as it requires to be carried out by those who are experienced in deaf teaching, it should be provided by law. I would remind you that the deaf child of all classes of children can least afford to lose the full advantage of his most impressionable years, and that these years are, physically and physiologically, the most appropriate for the commencement of suitable instruction.

(6) It is possible that, by means of earlier training, the automatic speech attained by hearing children might be at least partly attained by the deaf. This automatism would be materially assisted by the "synthetic" lip-reading, which must be developed in any form of oral teaching. To lip-read with facility requires practice, and the earlier this practice is called into regular use the quicker and more certain it is liable to become. Such facility in lip-reading gives the child command of a means of acquiring new language by sight, a method second only in usefulness to hearing.

Although I am not wholly inclined to believe that sight can ever be made completely to supplant hearing, I do believe that by special direction and assistance at a sufficiently early age the visual centre might be made a substitute for the auditory centre as a stimulus for the speech centres. It could, I am sure, be made a centre for the appreciation of language, which would act in relation with that for the production of language.

It scarcely comes within the province of this paper to speak of the method by which this earlier physiological training should be carried out, but I think that it should be of the nature of kindergarten classes, under experienced teachers of the deaf. These should use elementary articulation lessons calculated to encourage deaf children from the age of three years to chatter at their play, to encourage baby prattle about games, toys, and such matters of infantile interest. Set lessons, during this physiological stage of the deaf child's training, should be conspicuous by their entire

absence ; they should be rigidly banished until the child enters, with some elementary language which he can express orally with a certain ease, upon the pedagogical stage. During this physiological kindergarten stage of instruction special attention should be paid to language forms, which are most easily lip-read and imitated, always remembering that easy articulation should be used most freely. Unless the terms and phrases most easy of articulation and most easily understood by the child are made the dominant feature of the teaching, there would be a danger of laying a foundation of bad articulation, a danger which would neutralise part of the good accruing from this proposed early teaching. I would emphasise the paramount necessity of employing only teachers of proved experience, teachers able to gauge the necessities of the child, able to enter into his mental processes—in other words, to see with his eyes—and able thoroughly to *interest* him and to make him realise the value of spoken language as a method of communication. The words and phrases which could be grasped synthetically and reproduced with a fair amount of accuracy would come first, the difficult “elements” taught by articulation lessons being gradually led up to and introduced.

If there is any possibility of the visual centre being trained to take up the duties of the auditory centre, this early physiological course would take full advantage of it and would train the child into a *habit* of using his eyes in place of his ears. The possible danger to which I have alluded of laying a foundation of bad articulation could be obviated by the experienced teacher, and the chief aim should be to obtain a facility and fluency of speech which would prevent that artificiality so often complained of as characteristic of speech in the deaf.

I am aware that I shall be adversely criticised by some for wishing to drag the deaf child to school at the age of three, and that I may be accused of a desire to take the child from its parents. Therefore I wish to point out that the physiological education of the deaf pre-eminently necessitates a special teacher, and that no parents, however well-meaning, can carry it out, unless they are themselves experienced teachers of the deaf. I believe the object I advocate could be attained by short school hours with plenty of play, say five half-days a week, the child being absent from its parents only during those times. Parents would soon become impressed with the advantages their children were receiving and could help the teachers at home, indeed, some parents have expressed themselves to me as wishful for such an arrangement for early training.

I believe that, under such circumstances, whilst brain and larynx are more plastic than at seven, the speech centres could be stimulated to development, and that the hereditary tendency to speak could be preserved, encouraged, and fully utilised. Surely such a course would give better oral results, fewer oral failures, lead to an improved classification, emphasise individuality, make the deaf child more nearly approach to the normal child at seven years, and enable us earlier to distinguish the mentally deficient and the mentally deficient deaf.

Although I have practically confined my observations to the congenitally deaf, I would include in this early training those acquired cases who, having lost their hearing at two years and onwards, become, under existing conditions, mute before seven years.

In conclusion, I would propose for your consideration and approval the following resolution :

"That it is the strong opinion of this section of the Third International Congress on School Hygiene that the oral education of the deaf child should commence at the age of three years, and that the ultimate success of deaf education would be greatly enhanced thereby."

IDIOPATHIC ACIDOSIS IN CHILDREN.

By J. GORDON SHARP, M.D.Edin.

I HAVE used the term "idiopathic acidosis" because in the cases I am about to describe I can find no anterior condition to account for the acidosis. Acidosis, or at least one of its most important signs, acetone in the breath and urine, may be met with in the course of fevers, diabetes mellitus, locomotor ataxy, nervous diseases generally, intestinal obstruction, after the exhibition of morphine and other poisonous alkaloids, and after ether, chloroform, ethyl chloride, nitrous oxide gas, and other anæsthetics. Now, in idiopathic acidosis no cause can be assigned for the condition; and if one may not regard it as a pathological entity one is at least justified in describing it as a condition attended by many sharply defined signs and symptoms.

Acidosis may be defined as an acid intoxication of the blood and other tissues by, it is believed, β -oxybutyric acid. The other names by which acidosis is known are cyclical vomiting, acetonuria, and

acetonæmia. The last term is now known to be a misnomer, since acetone does not appear in the blood, or at least, it is not *the* erring body; acetone is found in the urine, and is the result of the break-down of some other body.

Ætiology and pathology.—In health, acetone, or, more properly, ketone, CH_3COCH_3 , is found in the urine in trifling amount, varying from $\frac{1}{4}$ to $\frac{1}{2}$ gr. (9 to 16 mgrm.) in the twenty-four hours. Acetone is derived from diacetic acid, $\text{CH}_3\text{COCH}_2\text{COOH}$, the decomposition probably taking place before the urine reaches the bladder, and in health it is doubtful if any is ever found in the urine that has been passed. If any does pass in the urine it is soon broken up, so that a urine which gives the reaction for diacetic acid will in ten hours give none, this body having been split up into acetone and carbonic dioxide. If the two formulæ given above be compared it will be seen that diacetic acid is simply acetone + carbonic dioxide.

The third substance which requires mention in the present connection is β -oxybutyric acid, $\text{CH}_3\text{CH}(\text{OH})\text{CH}_2\text{COOH}$, which contains one atom of oxygen more than ordinary butyric acid. In health it is represented in the urine by its decomposition product, diacetic acid or acetone.

In acidosis, acetone is present in the urine in amounts varying from fifty to a hundred times that met with in health, and it is accompanied by diacetic acid and β -oxybutyric acid which have escaped decomposition. This leads up to the question: To what is the poisoning due, the symptoms of which are vomiting and the presence of acetone in the urine? Certainly not to acetone, for acetone does not appear in the blood and tissues generally, for both acetone and diacetic acid are the decomposition products of a more complex substance. This body is now believed to be β -oxybutyric acid, and hence the condition has been called acidosis or acid intoxication. It is important to mention the odour of the breath. It resembles the odour of a dilute solution of one of the butyrates, or of a room in which chloroform has been allowed to evaporate. It is probably due to β -oxybutyric acid and its decomposition products, diacetic acid and acetone. The poison is given off in large amount by the lungs.

This is as far, then, as one can go at the present time, but future investigation may show that β -oxybutyric acid is only one of the decomposition products of some other body which is the causal agent in acidosis. In the meantime one may say that the drowsiness and the vomiting are due to this acid. The erring body is

eliminated by the stomach among other channels, and hence the vomiting.

Whence comes the β -oxybutyric acid? Till recently it was held to be derived from broken-down fats, and it was believed to be present in the tissues in large amount when carbohydrates were withheld from the dietary, and one of the suggested lines of treatment was to supply plenty of readily assimilable carbohydrate in the shape of glucose. But acidosis is met with when there appears to be a great waste of muscle, as in fevers, in starvation, and after an exclusive meat dietary. Further, after an attack of acidosis the muscles are found to be wasted. All these points appear to lend support to Naunyn's view that β -oxybutyric acid is derived from broken-down protein tissue.

Starvation, fevers, and an exclusive meat diet induce what one might call traumatic acidosis, and as soon as the cause is removed the acidosis ceases; and one has now to try and account for the cases spoken of as idiopathic acidosis. Some poison, or shock, or strain may so upset tissues susceptible in the direction of their metabolism. On the poison side one might call in the aid of analogy, for ether, chloroform, and other anæsthetics often induce acidosis, which may be slight or fatal according to the amount of damage done to the tissues. In support of the view that shock or strain may cause acidosis, one can point to the fact that these factors do cause diabetes mellitus, and the shock or strain may be mental or physical (influenza). Is metabolism assailed in its lower plane in the cells of the liver, spleen, pancreas, etc., or is the central controlling centre affected? In mild and curable cases it may be the former, and in severe and fatal cases the latter.

When one considers the complex process of metabolism, the wonder is not that its equilibrium is upset, but rather that it is not more frequently upset and permanently damaged. On the analytical side we find that insoluble fats must be changed into soluble soaps by hydrolysis; insoluble proteins have to be hydrolysed into soluble peptones and later into amino-acids, and insoluble carbohydrates have to be hydrolysed into soluble sugars. On the synthetical side we find that the amino-acids have to be re-converted into peptones and later into less soluble proteins, sugars have to be re-converted into less soluble substances, and soaps have to be re-formed into fats for storage in the tissues.

Tests for acetone, diacetic acid, and β -oxybutyric acid.—Although the presence of acetone in the urine is a sign of acidosis, it is important to be able to recognise the other two named. For exact work

the urine should be distilled, when all three substances will come over in the distillate and be free from the colouring matters of the urine. All heat (apart from distillation and for the purpose of confirmatory tests) should be avoided, for the agents with which we are now dealing readily pass off in vapour.

(1) *Acetone (or ketone) : Legal's test.*—Three to five drops of a saturated solution of sodium nitro-prusside are added to a test-tube containing two to two and a half fluid drachms (8 to 10 c.c.) of distillate or of the freshly passed undistilled urine. To this is added one or two (at the most) drops of solution of either potassium or sodium hydrate to render alkaline. A ruby-red colour appears with most urines (supposing urine to have been used in the test), owing to the contained creatinine. The urine is next rendered acid by adding one fluid drachm (about 4 c.c.) of strong acetic acid. If acetone be present the ruby-red remains or deepens, while if no acetone be present the coloration disappears in a few minutes. This is the best test, since it is not too delicate; the reaction does not appear with alcohol or aldehyde.

Lieben's iodoform test.—This is a delicate test, and is also given by alcohol and aldehyde. Of course in warm weather alcohol may be present in diabetic urine, due to fermentation of glucose. Take two to two and a half fluid drachms of urine or distillate and add to it one fluid drachm (about 4 c.c.) of a solution of iodine and potassium iodide (iodine 5, potassium iodide 15, distilled water 500—that is, about 5 and 15 gr. respectively to the fluid ounce). Add also about one fluid drachm of solution of potassium or sodium hydrate. Crystals of iodoform form, stick to the sides of the test-tube and slowly collect at the bottom. They may be recognised by the odour, colour, and by their microscopic appearance in the shape of hexagonal and stellate plates. The test-tube should be set aside in order to allow the test to develop.

(2) *Diacetic acid : Gerhardt's test.*—To 75 to 150 minims of distillate or urine (about 5 to 10 c.c.) is added drop by drop an ordinary solution of ferric chloride till no further precipitate of ferric phosphate falls down. The fluid portion of the test-tube will have a purple-red colour of ferric acetate if diacetic acid is present. Should there be any doubt about the colour the urine should be filtered through paper into a clean tube, and if this be held against a sheet of white paper all doubt should be removed. *Fallacy:* Certain drugs, such as salicylic acid, salicin, the salicylates, antipyrin, phenacetin, and others of the coal-tar series, when taken are passed in the urine in an altered form and give a like colour reaction with

ferric chloride, and hence a confirmatory test is necessary, as follows: If in testing for diacetic acid a positive reaction has been obtained, another portion of urine should be taken and boiled. This will drive off diacetic acid, and if ferric chloride be now added to this boiled urine no colour reaction will be obtained if the reaction previously obtained with urine in the cold was due to the presence of diacetic acid. Boiling has no effect on the salicylic acid and other substances named, and ferric chloride gives with them the colour reaction with both boiled and unboiled urine. Distillation would also remove any obscurity, for while diacetic acid would pass over in the distillate, salicylic acid and the other bodies which gave the red with ferric chloride would remain in the retort.

(3) *β -oxybutyric acid*.—This may be found in the urine provided it has not all been broken up into diacetic acid or acetone. Its detection is a fine point in pathological chemistry, and need only be briefly referred to, for the test is not important in the present connection. It rotates a ray of light to the left, and hence may be detected by means of the polariscope. Its presence may affect the polariscope reading in estimating glucose, and in like manner the presence of glucose may effect the polariscope reading of *β -oxybutyric acid*. Glucose can be got rid of by (1) adding yeast to cause fermentation, whereby all glucose is converted into alcohol and carbonic dioxide, and (2) by next adding lead acetate and ammonia; all substances which would turn a ray of light to the left are removed, except *β -oxybutyric acid*. The filtered urine is next examined by the polarimeter, when rotation to the left points to the presence of *β -oxybutyric acid*. Instead of fermenting the urine, etc., distillation might be employed and the result compared with that obtained by the former process.

Symptoms.—The first thing that impresses one on entering the bedroom is the peculiar sweet odour of the breath, making one think of diabetes. The patient is often drowsy or semi-comatose, but rouses up when the attacks of vomiting come on. Everything is rejected. There is no vomiting of large quantities of fluid; in most cases it is limited to mouthfuls of clear fluid. As soon as the vomiting ceases the child falls back into the drowsy state. Headache is often complained of, but it is not the splitting headache of migraine; and, of course, there is thirst. The appetite is entirely gone. The respirations are frequent, being evidently due to stimulation of the centre in the medulla. The skin is hot and dry, except at the end of the vomiting and retching, when the brow and temples may be covered by beads of

sweat. The cheeks are flushed, and the temperature in the arm-pit ranges from 99° F. at the onset to 103° F. at a later stage. As a rule the temperature is not high at first. The bowels, as a rule, are constipated, and the urine is scanty, but always contains acetone and often diacetic acid, but I have never met with sugar. In mild cases the urgent symptoms pass off in twenty-four to forty-eight hours; vomiting becomes less frequent, large draughts of water are taken, more urine is passed, and the bowels move freely. This latter circumstance I always look upon as a favourable omen.

In severe cases which recover the urgent symptoms do not pass off for fifty-six hours, or even longer, and there may be deep coma, leading one to think that the condition may prove fatal, and yet recovery takes place,

In the fatal cases the coma increases, the sweet odour of the breath may disappear, the temperature may rise to 103° F., or a little higher, clonic contraction of muscles or convulsions often follow, and the vaso-motor centres fail, as shown by the alternating white and pink hues of the skin and the profuse cold sweats. Towards the end the breathing is often of the Cheyne-Stokes' type.

In all the types of cases it is important to attend to the abdominal symptoms. There is never any violent pain, no peristalsis, no swelling; all that can be elicited is a tenderness high up in the abdomen, over the regions occupied by the liver, pancreas, and spleen. It remains to be mentioned that there was no jaundice met with in any of the cases.

Differential diagnosis.—Acidosis is distinguished from a "bilious attack" by the absence of severe headache, and by the drowsiness and other symptoms peculiar to the condition. It may be confounded with meningitis; but then, meningitis has always a previous history of injury or of irritability when tuberculous in origin. Then, again, the course is prolonged, and the knee-jerks are exaggerated, and there is the presence of Kernig's sign, besides many other well-known signs and symptoms which mark it out from acidosis. Lastly, idiopathic acidosis is only to be diagnosed when, after searching examination, no cause can be assigned for the acid intoxication. Fatal cases of acidosis appear to terminate in from a week to eight or nine days.

Treatment.—Mild cases soon get well with simple treatment; but I believe all cases in children attended by sweet odour of the breath and the presence of acetone in the urine should be treated as serious till the course of events prove them to be otherwise, and I have now begun to treat all cases alike from the beginning. I order a

saline purgative mixture made up as follows: Heavy carbonate of magnesium, 36 gr.; bicarbonate of sodium, 24 gr.; powdered tragacanth, 3 gr.; glycerine, 2 fluid drachms; water or peppermint-water to 3 fluid ounces. Dose: Two teaspoonfuls every one or two hours with or without plain water or aerated soda-water. As a rule, the child wakes up so frequently that the medicine can be given as often as desired; and as it is pleasant to take, it can be given instead of the usual draught of water or soda-water. It has the advantage of being laxative. I also prescribe aerated soda-water (not plain aerated water), and in order to get as much alkali into the tissues as possible I ask the mother or nurse to add 10 gr. of sodium bicarbonate to each tumblerful of aerated soda water, that is, to about each half-pint, so that when the child wishes to drink it can have some of this reinforced soda-water. Sometimes the child does not like the taste of the sodium bicarbonate, but a tablespoonful of milk added to the tumblerful usually masks the taste. The patient may refuse to take this prepared beverage, and then one has to fall back on cold water, and although it does not cleanse the gastric mucous membrane so well as the other beverage, it has some good effect. I am satisfied of the efficacy of the reinforced soda-water. The stomach contents have been retained for longer periods when it was given, and this gave a chance for the magnesium mixture to pass through the pylorus and to set up intestinal peristalsis and often a movement of the bowels—always a favourable sign. The sodium bicarbonate, besides its general action on the tissues after absorption, may have a local indirect anæsthetic action of the gastric mucous membrane by neutralising the poison excreted by the stomach.

Occasionally the vomiting becomes so persistent that the patient gets no rest, and then I prescribe a mixture of mj of tincture of opium; mx of compound tincture of cardamoms; glycerine, mx ; and water to one fluid drachm, this to be given every hour till the child gets sleep or rest. After a few doses of this mixture I have seen a patient sleep for five or six hours and awake on the way to recovery.

Illustrative cases.—The following may be taken as typical of a mild case: A boy, aged 6 years, is somewhat suddenly seized with sickness and vomiting of small quantities of white-of-egg-like substance, thirst, slight headache, and drowsiness. The bowels are not unduly constipated. Very little urine is passed. There is the characteristic sweet odour of the breath. The urine is acid, contains neither albumin nor sugar, but gives the reaction for acetone. He has no desire for food, but craves for cold water and soda-water.

These are given freely, and the magnesium and sodium carbonate mixture is prescribed. In twenty-four hours he is better, vomiting is less frequent, and the drowsiness is not so pronounced. In forty-eight hours after being first seen he is on the way towards convalescence. I have seen many cases like this in which there was no evident cause for the acidosis.

Severe cases.—(1) Girl, aged $4\frac{1}{2}$ years. When she was two, or a little over, she had her first attack, and from that time till now she has had something like four seizures, or rather less than two on the average yearly. All have been severe. In one attack she was semi-comatose for fifty-six hours, only waking up at intervals to ask for a drink. This naturally caused great alarm, and it was at this time that I proved to my own satisfaction the efficacy of the alkaline treatment of acidosis. Previously I had imagined it was rather theoretical than practical. In another of these seizures, in which the vomiting was persistent and gave the child no rest, I prescribed the opium mixture mentioned above, with the happiest results. At the end of one of these attacks, lasting, perhaps, only three days, the child was left with soft, flabby, wasted muscles, far in excess of that usually experienced in an illness of such a short duration. I may add that from the age of twelve months she had suffered from severe urticaria without abdominal pain, but in none of the attacks of acidosis was there accompanying urticaria.

(2) Boy, aged 7 years. For rather more than three years he has had ten attacks, and nearly all of them have been severe. The first day he suffers from slight headache, lies down, and is drowsy. On the second day he may complain of slight tenderness in the upper part of the abdomen on palpation. With this there is sickness and the sweet odour of the breath. The vomiting may be more or less severe for two days. Between the attacks of vomiting he lies in the usual drowsy state. On the fourth day the symptoms abate, and convalescence is established. The longest and most severe attack lasted for ten days. The odour of the breath, the presence of acetone in the urine, without there being anything to account for these, seemed to me to warrant the diagnosis of idiopathic acidosis. The child is somewhat rickety.

Fatal cases.—(1) Nearly three years ago I was called to see a girl, aged 7 years, who had previously been in good health. There was no tendency to any complaint. The weather was very hot, the door and windows were widely open, and there was a current of cool air, but in spite of this I detected the sweet odour of the breath as soon as I entered the room. I asked the mother if there

was vomiting, to which she replied that everything was rejected. Neither the mother nor the father had observed the sweet odour of the breath. The temperature was 99° F. in the arm-pit. The tongue was not particularly coated. There was some slight tenderness high up in the abdomen on pressure, but no muscular resistance. No swelling nor peristalsis suggestive of pus or obstruction was to be found. The mother said the patient wished to lie quiet and not be bothered with anything. The urine contained acetone. I had thought of prescribing opium, but it was well, in view of subsequent events, that I did not. I ordered a simple mixture containing magnesium carbonate, sodium bicarbonate, and salines, and plenty of cold water freshly drawn from the tap. Next day the child was not one whit improved. On the following day I left for my holidays, and she came under the charge of a friend, who called in a consulting physician, and they agreed that it was the wisest course to have the abdomen opened. This was carried out by a surgeon, and I believe nothing was found to account for the vomiting. I may say that had I been at home I should have followed the course taken, because at that time I had not come to recognise the fact that there may exist cases of persistent vomiting without any evident physical cause.

(2) A boy, aged 3½ years, was brought to me in February, 1910. As soon as he entered the room I recognised the characteristic odour, but here, again, the mother, on being questioned, said she had not noticed it. I then asked if he had had vomiting, to which she replied that even a drink of cold water was rejected some time after it was taken. The boy had great thirst, and, as his mother expressed it, he was "all for sleep." I told the mother that I thought the boy was seriously ill, to which opinion she seemed to demur, saying that if only the sickness was stopped he would be "all right." Had I not had experience of the condition I should have been of the same opinion as the mother, for the usual signs and symptoms of a serious condition were absent. The urine gave Legal's acetone reaction. I prescribed the usual remedies, including opium, but without avail, and the boy died in eight days. Earlier in the year the child had had influenza. This is the only important circumstance in the previous history that calls for mention.

TREATMENT OF CONGENITAL SYPHILIS WITH "606."

By J. E. R. McDONAGH, F.R.C.S.,

Surgeon to Out-patients at the London Lock Hospital.

EHRlich's epoch-making discovery, which has already played a great rôle in acquired syphilis, bids to play even a greater in the congenital form, since if the method prove successful infant mortality will be thereby diminished. If statistics or Government reports are studied, one would believe that syphilis did not exist in our isles. A medical man recently aptly said—"Syphilis is unknown in Liverpool." To obtain an idea of the havoc syphilis causes, I cannot do better than cull from the figures of Hochsinger, who has been able since 1869 to keep under supervision 134 women, who themselves showed no signs of syphilis, but bore syphilitic children.

These women gave birth to 569 children, of which 253, or 44·4 per cent., were born dead, 263 were born alive, some showing signs of syphilis at birth, others not till later; of the 263, 55, over 20 per cent., died before the fourth year, and only 53 were born who grew up without a taint.

From these figures it will readily be seen what a cure of syphilis would mean, since not only could we cure those already born, but by treating the mother prevent the birth of syphilitic children and miscarriages. As the drug has not been in use a year yet it is too early to draw any conclusions, but from the reports already issued one is justified in being at least optimistic, as the following will show. Wechselmann treated five cases of pemphigus neonatorum, which is, perhaps, one of the most fatal of the early congenital syphilitic manifestations.

Two recovered, three died some days following the injection, after the cutaneous lesions had completely disappeared, but fever and marked anæmia, and in one case opisthotonos, set in.

The post-mortem examination of one case showed miliary gummata in the liver, in another gummata in the cardiac muscle, but in none was any trace of arsenic found. Wechselmann ascribes the death to the rapid dissolution of the spirochaetæ, resulting in a considerable overflow of endotoxins which a weakly, marasmic child could not overcome.

Schreiber reports two cases of pregnant women who, after a single injection of "606," gave birth to healthy children.

Michaelis showed on July the 6th, before the Berlin Medical

Society, a congenital syphilitic child with a maculo-papular rash on the trunk, and a papular rash on the palms and soles, who had been completely cured after a single injection.

Treupel reported a cure of a congenital syphilitic suffering from bilateral keratitis and iritis after an injection of 0.4 gm. Eighteen days later the Wassermann's reaction was still positive.

Curiously enough, in Igersheimer's case of bilateral interstitial keratitis the eye trouble did not clear up on 0.4 gm., but the Wassermann's reaction became negative on the fourth day.

The following case, reported by Taege, is one of considerable importance, since it seems to prove that a syphilitic child can be cured by being suckled by its mother, who had previously received an injection :

A girl, aged 19 years, with condylomata, from which spirochætæ were obtained, and who gave a positive Wassermann's reaction, gave birth on July the 4th to a marasmic child, which weighed 4½ lb. On July the 13th pemphigus bullæ on the soles of the feet and paronychia of the fingers developed ; the following day the mother was injected with 0.3 gm. of "606." On the third day the mother's lesions showed improvement, and no spirochætæ were to be found in the condylomata.

The child was suckled straight away by the mother, in consequence of which, on the second day, the symptoms increased in severity, to suddenly disappear with such extreme rapidity that on the fifth day the greyish colour had been replaced by the normal rose-tint of the skin, the paronychia had vanished, the bullæ became almost imperceptible, the child cried instead of whimpering, and took the breast eagerly. On July the 29th the child weighed 8 lb., and showed no symptoms.

Only the merest trace of inorganic arsenic was discovered in 100 gm. of milk, therefore one cannot believe that the improvement of the child was due to the arsenic, but rather to the endotoxin which resulted from the destruction of the spirochætæ in the mother, and which was conveyed to the child through the milk.

Duhot reports an essentially similar case, in which the child increased more than a pound in weight the first week, a pound in the second, and three quarters of a pound in the third. In the milk Van Keerberghe could not find the slightest trace of either organic or inorganic arsenic.

If merely injecting the mother is going to cure the child the latter need not be injected, thereby the risk of poisoning from an overdose of endotoxin is obviated ; but one must bear in mind the

possibility of a recurrence if treating the mother is solely relied upon, as one can scarcely believe that the amount of antitoxin absorbed from the milk would be as potent as an injection; time can only show.

Be that as it may, the condition is so remarkably improved thereby that a child could stand an injection later if necessary, and the dose given should range between 0.004-0.005 gm. per pound. The formation of anti-bodies by arsenical preparations in protozoal diseases was known to Ehrlich before "606" came to be used clinically.

It was found that certain synthetic arsenical compounds only partly killed the organisms, the remainder succumbing to the anti-bodies produced by the death of the few.

The best results of cure obtained are, naturally, when the disease is at its height, when the body is saturated, so to speak, with the specific organisms, since the formation of anti-bodies may play even a greater part in causing complete dissolution of the organisms than the direct destruction of a few, and in these very potent preparations the smallest dose possible may suffice.

After having treated sixty cases with "606," I have found that a bigger dose is required to heal an early chancre than to completely cure a case of extensive gummatous ulceration, for instance, in a congenital syphilitic; therefore one is justified in assuming that the cure is largely due to the amount of antitoxin formed, and those cases which have severe syphilitic lesions, such as extensive ulceration of the pharynx and larynx and meningitis, are very ill for a few days after the injection, have high fever, and sweat profusely. It is not, therefore, to be wondered at that tiny infants have succumbed after an injection.

A girl, aged 15 years, kindly referred to me by Mr. R. C. Elmslie, developed the usual signs of congenital syphilis soon after birth, the mother having acquired the disease two years previously. Later the child had double interstitial keratitis, which disappeared under treatment, to be followed by cutaneous gummata over the left thigh and leg, which had resisted prolonged oral administration of mercury. The gumma on the thigh was deep, circular, and about 2½ in. in diameter; on the anterior surface of the tibia were multiple sores, the base of some reaching as far as the periosteum and bone; there was a great deal of evil-smelling discharge, and it was almost impossible to keep the ulcers clean.

The patient was injected with 0.3 gm. of the powder in an emulsion. Except for a little pain and a rise of temperature to

100° F., which lasted till the next day, the patient suffered no inconvenience.

On the second day the ulcers already showed signs of healing, and within ten days they had completely healed, no other treatment having been added. The patient also says she feels very much better.

The Wassermann's reaction is still positive.

The persistence of the positive Wassermann's reaction in congenital syphilis requires much more light thrown upon it before a satisfactory explanation is forthcoming. I have examined women who have borne healthy children and presumably had no active disease, but whose sera were capable of fixing an unusual quantity of complement, and the fixation power was not lessened by treatment.

THE THIRD INTERNATIONAL CONGRESS ON SCHOOL HYGIENE.

By M. D. EDER, M.R.C.S., L.R.C.P., B.Sc.Lond.,
Managing Editor of 'School Hygiene.'

It is an error to judge the value of a congress, especially of an international congress, by its printed records. These always look very imposing, and certainly those of the Paris Congress, in two fat volumes, were weighty enough, but critical examination is apt to find much of the stuff wearing rather thin. The real value of the congress lies in the informal meetings, where half a dozen diverse minds from diverse countries foregathered to thresh out knotty problems. It was over the coffee-cups, or the bocks, or on the staircase of the Grand Palais, or during an excursion, that one discovered the views of the delegates on the chief subjects in the programme.

The Congress itself certainly did not give much opportunity for discussion at all, except on one subject—"The *Rôle* of the Specialist in Medical Inspection." The very breezy debate in the third section on this topic was, after all, I think, due more to a misunderstanding than to any real diversity of views on the chief point. Dr. Stackler, a French aural specialist, and Dr. Oebberke maintained that the general inspection of school children, including that of the eyes, ears, skin, etc., must be carried out by a non-specialist school medical officer, who would be usually a general practitioner.

To this proposition the main body of specialists objected. How

could the general practitioner know all about teeth, eyes, ears, and so on? "What!" retorted Dr. Stackler, "you want each unfortunate child to be examined by a dentist, aurist, oculist, psychiatrist, thoracist, hepatist, orthopaedist, urinologist, etc.! The child will be dead, or at least a professor, before the specialists have done with him."

Whilst the main battle was carried on in the third section, the line of fire extended through nearly all the sections; I certainly heard distinct rumblings in Sections 4, 5, 6, and 11, and in the set discussion before the Congress on the third morning.

It is difficult to understand what all the bother was about; in fact there would have been none at all (which, after all, would have been a pity) had the disputants kept in mind a few simple propositions such as were laid down by Dr. Kerr on the first day of the Congress. The school doctor has to determine whether a child does or does not require special treatment—medical or educational. No specialist examination of the senses is required for this, as will be seen on referring to the discussions in the special sections (see, for instance, Drs. Gellé and Hennebert, and Mr. Yearsley, on testing the hearing powers of school children).

When the school doctor has separated the normal from the abnormal children, the specialist (who may be the school doctor himself) has his part to play. Not only is a rigorous examination of the abnormal children required, but, as Mr. Yearsley insisted, this examination is merely a means to an end, viz. treatment. This is what Dr. Kerr meant when he said that the same school doctor who inspects should not, as a rule, carry out the treatment. The child is to have the benefit of two opinions—the general practitioner—school doctor, and the specialist, who may, of course, be at the same time a school doctor himself.

It was really unfortunate that the question of treatment itself received such scurvy treatment at the Congress. In England certainly the pivot of medical inspection now turns on this point. Dr. Williams, of Bradford, had a paper down describing the Bradford school clinic, and my own paper was to deal with the experience of Dr. Tribe and myself at two London school clinics. These were set down for the last morning, and were then shelved by the lunch hour. These were the only papers before the Congress describing the treatment of school children from actual experience.

Prophylactic treatment, on the other hand, was splendidly to the fore. Nothing very new occurred in the discussion on open-air schools, but it is a subject that will do with any amount of ventila-

tion ; it has already led to more air in the ordinary schools and to some improvement in the overpowering stuffiness of the average German school. Physical education was well presented ; not only was the sectional meeting well attended, but the demonstrations given every afternoon attracted much criticism. We had the opportunity of judging what harm can be done by ill-directed effort as well as what good may be accomplished by carefully selected methods. The gymnastic display by some French school boys showed the former tendency ; the drilling was good but many of the boys were overtaxed ; all were pale and fatigued towards the end, whilst choreic movements were noticed in some of the children. On the other hand the displays by Miss Wilke's pupils and by those of Miss Hughes were admirable in every respect.

A prominent place was assigned to the thorny subject of instruction in sex ; I say thorny, because so long as we confine ourselves to generalities there is no difference of opinion, but once we go into details there is no consensus of view. All agree that children should not be allowed to pick up this knowledge in the gutter ; their instincts afford no safe guide, unless partly controlled by education. Dr. Chotzen, of Breslau, and Dr. Doléris, of Paris, read papers on the subject to the Congress, and Dr. Flachs to the ninth section. All three claimed that the doctor was the only person who should give this instruction—a view from which I had to dissent. Recollections of student days abide with one, and force me to say that the physician is frequently a singularly bad teacher. Why should it be otherwise ? With a few teaching is an innate gift, but even with these few exceptional persons a professional training is essential. Whoever thinks it necessary that a physician or surgeon in a teaching hospital should have real training in the art of teaching ? It is quite as essential that the educator of youth should have professional skill as that he should have a proper knowledge of his subject.

Much harm is being done at the present moment because some doctors, with complete ignorance of the art and science of education, will insist upon drawing up a rigid educational programme. I need not say that those school doctors who know most of their subject carefully abstain from this folly. But a signal instance of this was the paper by Dr. Chaillon, formerly of the Pasteur Institute, who has not even the experience of a school doctor. He drew up a complete school time-table for every minute in the day ; had a walk once a week, a bath once a day, claret at dinner, coffee and meat at breakfast, explained what should be taught, when and how. It

is not surprising that educationists ask, like Miss Michaelis in 'Child Life,' Is this "an example of what is likely to happen if the medical man is to have the supreme voice in ordering the life of the school child?" Everybody is prepared to give advice on medicine and education; the doctor should at least remember his own difficulties, and approach the subject of education with some diffidence.

To ensure the future success of these congresses some changes are required. Sections should not be multiplied so unnecessarily; there were thirteen sections at the Congress, and these could have been easily compressed into half the number by prohibiting the reduplication of papers on one subject. French Presidents and secretaries are too tender-hearted. No paper to be read before a congress should exceed twenty minutes in length. This would allow for the fuller discussion of important questions, and permit one to be in more than one section on one morning.

One of the chief results of the Congress will probably be to place medical inspection of schools in France on much the same footing as it is in England and Germany—a Bill is now before the French Chamber. This, after all, will be success enough, just as it was in our land three years ago.

Third International Congress on School Hygiene.

Held in Paris, August the 2nd—7th, 1910.

(Compiled from 'School Hygiene,' September, 1910, by Dr. M. D. EDER.)

(Continued from p. 408.)

Section V.—THE PREVENTION OF CONTAGIOUS DISEASES IN SCHOOLS.

The proportion of infectious disease in childhood to be charged against the account of school attendance proved to be a point upon which there was no general agreement. Dr. HARRINGTON (Director of School Hygiene, Boston, U.S.A.), on the second day, in an able paper, took up the strong view that school attendance was a modifying rather than a causative influence, while Dr. ALOIS LODE (Medical Officer of Health of Innsbruck), on the third day took up the cudgels in support of the opposite view. Another question that brought out sharp difference in opinion was the amount of infectious disease which can be prevented by daily visitation of the school by the doctor. In his opening remarks the Chairman of the Section (M. HUTINEL) inclined to favour constant personal supervision, but the speakers following in the discussion took the general view enunciated by Dr. KERR—that daily visitation

of schools with a vague preventative aim is waste of time and money. The first sitting of the Section on Wednesday, August the 3rd, was largely occupied by a discussion on the subject of **Parasitic Diseases of the Skin in School**. This was opened by Dr. JEANSELME and Dr. MEIROWSKY. The former dealt with the prevalence of tinea and pediculosis in the school, and advocated the appointment of school nurses, who should be occupied in the treatment of parasitic skin conditions in school. He also advocated the training of children in personal hygiene.

Dr. MEIROWSKY insisted more on exclusion from school of infected children, and their treatment at home by district sisters.

The second day's discussion was occupied with the question of **The Superintendence of Infected Children when out of School, and the Conditions of their Re-admission to School**.

Dr. MERKLEN (Paris), dealing with re-admission, pointed out that a law of 1893 in France demands a certificate of freedom from infection, but he went on to show how frequently this provision breaks down. In his opinion a certificate from the school doctor should alone be valid. Dealing with periods of exclusion, he gave for each disease an appropriate period; these approximate to those in use in England, with the exception of measles, for which his suggestion of eight days after the appearance of the eruption would appear to most of us somewhat short. Dr. HARRINGTON, who followed, showed that the closing of schools in summer could not be the only cause of the lessened morbidity of such diseases as scarlet fever and diphtheria during the vacation, and urged the importance of the view that during term time very few cases are missed as compared with holiday time. He described how special quarantine nurses are in Boston assigned to homes in which contagion is present, and close supervision thus secured during the prescribed period of isolation. In his view education, instruction, and persuasion are more effective in controlling disease than legislation and compulsion, and he quoted with approval the London plan of warning notices to parents when the presence of measles in a school becomes known. He gave figures showing the extreme rarity of tuberculosis in elementary schools (158 cases in 90,000 Boston school children).

Dr. LATAPI (Mexico) described the measures taken in that country to control the infectious diseases of school children. When a child in school is discovered with ringworm the doctor immediately cuts out a piece of material and applies it with care to the child's head; he binds it on with an elastic cord. The child then is sent home with a bulletin. The unexpected appearance of the child at home in this head-dress invariably produces a sensation, and the parents hasten to obtain advice for a condition which, without the elaborate adornment, would probably be ignored.

The chief discussion at the third sitting was on **The Means of Protecting Households from Contagious School Diseases**. Dr. GILLET (Paris) laid great stress upon the educational effect of advice from the school authorities, and produced the various pamphlets distributed by the health authorities of Paris to this end, including the "little book" of thirty-nine pages entitled 'Instructions on the Prophylaxis of Contagious Diseases,' issued by the Prefecture of the Seine (edited and to be obtained from the Chaix Press).

Dr. BARLERIN (of the Vaccine Institute of Paris) described the practice of re-vaccination in the schools of that city. For many years Dufestel and Lazard have carried out thorough school vaccination in the two most populous districts. He advocated re-vaccination of all school children in

the seventh and eighth years of life, and considered that it should be part of the duty of the school doctor.

Section VI.—OUT-OF-SCHOOL HYGIENE—OPEN-AIR SCHOOLS —VACATION COLONIES.

This side of preventive medicine and improved educational method was well supported. M. LACABE-PLASTEIG gave a complete history of the open-air school movement, and described the school opened at Lyons in 1907, which has been successfully carried on by the municipality. Paris has just bought a beautiful piece of ground, where a similar school is to be erected. Dr. VIGNE, physician to the Lyons school, claimed that his school, where there was sleeping accommodation for the children, was especially beneficial for children with definite tuberculous lesions. Dr. THOMAS B. BALLIET (New York) insisted upon the value of "fresh-air rooms," small classes, good food, and plenty of it, rest, and baths; and Dr. J. W. BRANNAN (New York) described the open-air schools set up on the disused ferry-boats of New York, where the children came daily. A full report of the Bridport open-air school was given by Dr. L. WILLIAMS and Mr. KIRBY, the city architect. The former showed the success of the school in the treatment of chorea and of stammering; whilst Mr. Kirby claimed that the open-air school movement was affecting the designs of school buildings in general.

Dr. R. P. WILLIAMS, of Sheffield, gave an interesting description of the Sheffield school. He stated that the school attendance of the children who had been to Whiteley Wood was ever so much better than the same children's attendance in previous winters. Dr. NEUFERT (Charlottenburg) said that delicate children who had been to the open-air schools ought to be kept in special classes in the ordinary schools, so that they might be kept under observation. He favoured the adoption of the "open-air" principle in all schools. Other interesting communications were received from Mine. TLUCHOR on the day holiday-schools of Austria, and from Dr. PANDI (Padua) on holiday camps for children.

Section VII.—THE TEACHING STAFF, THEIR RELATION WITH THE HOMES, AND WITH THE SCHOOL DOCTOR.

The president of the section was M. LYON, Rector of the University of Lille. The very important question of the health of prospective teachers was fully treated in papers by Dr. BRETON (Lille) and Dr. R. L. WILLIAMSON (Manchester). Dr. Breton gave the result of a questionnaire that had been submitted to the heads of training colleges asking for information as to the effect of the existing regulations. The replies showed that these were on the whole quite satisfactory, but that the medical examinations must be kept up to the mark, and Dr. Breton proposed to enlarge them in several respects. Dr. Williamson showed that the teaching is a healthy profession. The chief cause of death in England and Wales is tuberculosis, and the most frequent cause of retirement is nervous disease, chiefly neurasthenia. Mental strain was often due to large classes, and the remedy for this was obvious.

Herr THUTLOR, head master of the boys' school at Vienna, described the

parents' meeting which had been instituted at Vienna. He said they had a most valuable influence upon the health and education of the children. They kept the master in the right place to encourage the parents to take a direct interest in the educational progress of the children. The following resolutions were passed on this subject:

(1) That frequent conferences between parents and teachers be organised at all educational establishments in every country.

(2) That a central committee should make the necessary arrangements and formulate a general programme for such conferences.

Dr. BROUDIC (Paris) read a report on the feeding at the *crèches (écoles maternelles)*, where children are educated from the age of two. He said the dietary was often most unsuitable. He had seen these babies drinking wine in the canteens. Wine and other alcoholic drinks should be prohibited. The teachers can do nothing at present, because the children, not yet being of school age, are not under their orders. He proposed that the dietary in these canteens should be properly adapted to the infants, and in future should be controlled by the school medical officers.

Section VIII.—INSTRUCTION IN HYGIENE FOR TEACHERS, SCHOLARS AND PARENTS.

The work of Section VIII dealt with:

(1) **The Teaching of Infant Rearing to Mistresses and Pupils.**—The chief papers on this subject were contributed by Dr. FRUHNHOLZ (Nancy) and Alderman BROADBENT (Huddersfield). "It is to be hoped," said the former, "that the teaching of infant rearing to young girls will become obligatory." Alderman BROADBENT dwelt on the appalling ignorance of many present-day mothers, the necessity for giving instruction on infant management to every elder school-girl, and the fallacy of the opinion that such instruction robs girls "of the bloom and freshness of innocence." "In various schools, but more particularly one in Leeds, it had been demonstrated that girls will remember the lessons taught them on this subject; they love the teaching, they feel its importance, they take it in simply." "The first principle of education is to build up intelligence upon instinct." "To a large extent we do so with boys, but with girls the very strongest of natural instincts are ignored and as far as possible suppressed." "The girl's unconscious love of babyhood is, educationally, a mine of ungotten gold, and should be made the utmost use of. There is splendid material in this motherly instinct of girls, and whatever has been the reason for its neglect in the past, it is time a totally different view should be taken of the relation between education and motherhood."

Temperance Teaching in School.—An excellent paper was read by Dr. ALEXIS PISSAVY (Paris). "Alcohol," he said "doubles the death-rate and menaces even the existence of our race. The school is the most favourable ground for the anti-alcoholic struggle. With the *child* we have only as yet to fight against prejudices and false ideas learnt in home life. With the *man* who has commenced to drink, our efforts come into collision with the physical need of drink, a necessity so pressing that confirmed alcoholism is practically incurable. The struggle against this curse ought, then, to be preventive." They should not only point out the dangers of drink, but should strive to keep the country child in the country by "developing his tastes along country lines." Interest the townsboy "in

associations where temperance is the rule," and (last but not least), "give the women such an education in thrift as would enable them to make for their husbands a home sufficiently attractive to keep them at home. Dr. Pissavy made the novel proposal that "the masters who devote themselves most ardently to the struggle against alcohol be greatly encouraged, and that the decrease in the number of shops (beer and wine), and consumption per head of the inhabitants, serve as a basis for the right of recompense accorded to the masters of elementary schools for their anti-alcoholic zeal."

Dr. HUGO HAGELIN (Sweden) followed, and a heated controversy took place, inasmuch as he wished, not temperance teaching, but that of total abstinence to be made compulsory.

Section IX.—TEACHING METHODS AND SYLLABUS IN RELATION TO SCHOOL HYGIENE.

There was a good attendance at the opening of this section to hear Dr. CHAILLOU (Paris) on a standard time-table for children of different ages. Dr. Chaillou contended that inasmuch as the course of study demanded to-day was very exhausting, the dietary must be a stimulating one. Children of sixteen to eighteen years of age should get up between five and seven and go to bed at half-past eight. The classes should be broken up by intervals of quarter-hours; there should be one walk per week. Meat should be given at early breakfast and mid-day, but not at dinner in the evening. At breakfast black coffee might be taken, but not *café au lait* or chocolate. He regarded milk as a poison. For dinner, light Bordeaux, which he considered an excellent beverage for school children who required something stimulating. The paper was criticised by M. MENDUISSE, HAGELIN, and others. Black coffee and wine were considered by most present as more poisonous than milk for children. It was contended that if the course of studies could only be maintained by a stimulating diet, it was surely more advisable to change the educational problem rather than to adopt that dietary.

Other papers that provoked interesting discussions were: Dr. JANELLE on **Experiments in Fatigue**, Dr. FLACHS on **Education on Sex**, and Dr. SCHUYTEN and Dr. MENDOUSSE on **The Causes of Inattention**.

Section X.—TEACHING OF ABNORMAL CHILDREN.

The Session was opened by Dr. BEAUVISAGE, Senator and Professor of Medicine at Lyons, who discussed the questions of the time-table and curriculum for feeble-minded children. The discussion was maintained by Dr. AMAND LAURENT (Rouen) and Dr. BOYER (Paris), and with the exception of a few remarks from Miss DENDY (Sandlebridge), was confined to the representatives of France. In an interesting paper Dr. MANHEIMER GOMMÈS (Paris) strongly advocated the boarding out of feeble-minded children, and suggested that internal schools for defectives should find place for children from rural districts. He also pointed out the importance of a linking up of the various institutions for dealing with non-normal children:

(1) Schools for abnormal children—(a) special classes (day classes or special schools of a non-residential character); (b) special residential schools.

(2) "Hospital schools," where medical and educational treatment may be combined. These might be called "observation schools."

(3) Institutions for protection, improvement, and reform—colonies in which the training and general mode of life is (1) agricultural, (2) industrial.

(4) Institutions for the unimprovable—asylums for lunatics, idiots, etc.

Mrs. PINSENT, in her paper, attempted to prove that under existing circumstances the great expense of special school teaching is not justified by the results achieved. The Birmingham After-care Committee has now been in existence for nine years, and has accumulated ample material on which to base an opinion. What are the results? A large proportion of the children trained in the special schools are already known to be in the workhouse or in institutions for the feeble-minded. Less than 5 per cent. can be described as self-supporting, and only a small proportion of the total number earn as much as ten shillings a week, while numbers are living at home earning no wage at all. While it is found to be comparatively easy for a child from a special school to obtain work at the usual rate of wage for "young person" labour, yet the wage-earning capacity does not improve, and within a few years he finds himself either out of work or earning a wage little or no higher than that he received upon his entrance into industrial life. The only remedy for this state of things is, in her opinion, the means of securing continued control and supervision beyond the age limit fixed by the Education (Defective and Epileptic Children) Act, 1899.

Miss DENDY advocated a colony life for the feeble-minded on the lines of the Waverley Colony. The success of the life in a colony depends upon the participation of each individual member in the communal life, in which each has definite duties, however simple, but suited to his individual capacities, whereby the interests are aroused. Even the humble duty of counting the potatoes to be distributed to the various homes, by arousing the interest, serves better to teach the idea of number than a formal attempt at the inculcation of rules of arithmetic. Correct classification of the inmates is thus the keynote of success, and every endeavour should be made to educate such faculties as are present rather than to attempt in vain to stimulate into being faculties which are non-existent. There must, however, be no time for idleness.

In the discussion which followed these two papers, Mrs. BURGWIN (London) strongly deprecated a complete exclusion from the curriculum of any attempt at "three R's" education and the relegation of a child to a whole-time manual time-table. The first and most important step must be the clear differentiation of the feeble-minded children, especially those who are only slightly below normal, from the idiots and imbeciles. In any scheme for dealing with the question there must always be a place for the day-schools and classes, which will continue to act as observation classes, and custodied institutions for those whose mental capacity renders permanent care imperative.

Dr. SHUTTLEWORTH (London), the English Secretary to the Section, read a *resumé* of his paper in which he argued for the systematic training of teachers in the diagnosis and varieties of feeble-mindedness. Three factors are of importance:

(1) Intelligent and reciprocal collaboration between the medical officer and the teachers.

(2) Periodic conferences between the medical officer and the teachers.

(3) Some method of preserving records of physical and psychological

points in order to modify the type of instruction as may be necessary from time to time.

Section XI.

This was divided into three sub-sections.

Sub-section I.—HYGIENE OF THE EYE.

Dr. GONZALEZ (Mexico) gave an interesting *résumé* of the eyesight of school children in Leon, Mexico. The results were obtained by retinoscopy, and were carried out on 1000 children:

Emmetropia	49.2 per cent.
Hypermetropia	40.8 ..
Myopia	3.4 ..
Hypermetropic astigmatism	2.7 ..
Myopic astigmatism	3.9 ..

This gives a total of 7.1 per cent. for all forms of myopia, which Dr. Gonzalez regards as low compared with the estimates from other countries. He attributes this to the small classes, the open-air life, the absence of any necessity for artificial lighting, and the race—for the majority of the children are of mixed Spanish and native Indian stock.

Prof. DUFOUR'S (Lausanne) paper dealt with the general causation of myopia among school children. He said that ophthalmic surgeons had long ago agreed as to this. Myopia is due to the necessity for prolonged looking at objects less than 30 cm. distant, and acts only on predisposed persons. The inconveniences of this predisposition can be obviated by proper attention to school hygiene generally and to the affected children individually.

Dr. FRENKEL (Toulouse) and Dr. KATZ (St. Petersburg) dealt with the relations between affections of the eyesight and school attendance. Dr. Frenkel found that the frequency of external eye disease is about 10 per cent. The cases that required exclusion from school were trachoma and such forms of conjunctivitis as are due to gonorrhœa, the bacillus of Weeks, or the pneumonias; conjunctivitis due to the Morax-Axenfeld bacillus, though frequent, rarely requires exclusion. The sitting terminated by carrying the following resolution: "Having regard to the many eye diseases, scrofulous and infectious, in the primary schools, and having regard to the many different cases of refraction among the children, this section is in favour of the appointment of ophthalmic surgeons in all primary and secondary schools in every country for the examination of, and, when necessary, for the free treatment of, the children, in collaboration with the school medical officer and the teaching staff."

Sub-section II.—AURAL HYGIENE.

Drs. GELLÉ, *fils* (Paris), and HENNEBERT (Bordeaux) read their report on **How to Increase the Hearing Power of School Children**. In view of the large number of children to be examined and the small number of examiners available, the only practical method was to test the hearing by means of the voice—words spoken aloud and in a whisper; each ear should be examined separately. It was not necessary to test every child, but only those selected by the teachers as suffering from defective hearing. About two thirds of the children will be found curable; of the rest none who fail to hear

the whispered voice at two metres can profitably stay in the ordinary classes. These must receive careful examination; those who, *e.g.*, can hear a loud voice should receive individual teaching or go to special schools; others must be drafted to the deaf and dumb schools.

In the discussion Mr. MACLEOD YEARSLEY (London) said he was glad to find himself in complete accord with the openers. He described his own method of examination in the London County Council schools, and insisted upon such inspection being merely a means to an end, *viz.* treatment. Mr. Macleod Yearsley summarised in his paper the arguments for the early education of the deaf, and concluded with the following resolution: "That it is the strong opinion of this Section of the Third International Congress on School Hygiene that the aural education of the deaf child should commence at the age of three years, and that the ultimate success of deaf education would be greatly enhanced thereby." The same view was advocated by Mr. G. SIBLEY HAYCOCK (London) and by Dr. KERR LOVE (Glasgow), who claimed that inasmuch as a deaf child of seven is equal in general to a hearing child of two years, special education should be commenced as soon as the child is discovered to be deaf.

Mr. F. G. BARNES, on **The Treatment of Defective Deaf Children**, pointed out that the presence of these children in the ordinary schools for the deaf was against the best interests of both. In the defective deaf special residential schools were required.

Sub-section III.—DENTAL HYGIENE.

Wednesday morning, August the 3rd, Dr. DREYFUS (Paris) and Dr. WILHELM WALLISCH (Vienna), **Oral Hygiene in Residential Schools**. After discussion of these papers the following resolutions were passed:

(1) That a dental inspection by a specialist should take place every six months in the schools.

(2) That there should be a dentist inspector and a dentist for treatment; complete freedom to the parents as to the choice of the latter.

Wednesday afternoon: (1) Dr. BON (Brussels), **School Dental Service at Brussels**; (2) Dr. ALBIN LENHARDTSON (Stockholm), **The Co-operation of the Teachers, School Physicians, and School Dentists**; (3) **The Part to be Played by the Dentist in the Schools**.

Thursday morning, August the 4th: (1) Mr. VERSLUYSEN (Antwerp), **The Importance of the Hygiene of Mouth and Teeth for the Preservation of the General Health of Children and Adolescents**; (2) Dr. J. FERRIER (Paris), **The use of Boiled Water as a Drink: Effect on the Teeth and the General Condition**; (3) Dr. CUNNINGHAM (Cambridge), **The Cambridge Dental Institute for Children**.

Thursday afternoon: (1) Dr. CRUET (Paris), **The Importance of the Hygiene of Mouth and Teeth for the Preservation of the General Health of Children and Adolescents**. After a long discussion the following conclusion was agreed to:

"On account of the general and technical knowledge required on account of their importance, this hygiene and its treatment can only be completely assured by a specialist."

Friday morning, August the 5th: (1) Dr. M. ROY (Paris) on **Half-yearly Inspection and Treatment of the Teeth of School Children**; (2) Professor JESSEN (Strassburg), same subject; (3) Mr. H. WATSON TURNER

(London), **The Causes of Oral Sepsis and its Prevention**; (4) Mr. C. EDWARD WALLIS (London), **A School Dental Clinic in London**; (5) Dr. DELGUEL (Bordeaux), **Necessity for the Supervision of the Teeth of the Children and Adolescents who are on a Diet of Milk or Slops.**

The following resolutions were carried: (1) "There must be a half-yearly inspection for school children, and dental cards should be affixed to the medical reports"; (2) "Inspection must be separate from treatment; for the latter the parent must be at liberty to choose his dentist"; (3) "Dental inspection must be made in the schools by a specialist."

Société de Pédiatrie, Paris.

June the 21st, 1910.

Surgical Treatment of Congenital Narrowing of the Biliary Passages.—M. VEAU reported the case of a girl, aged $3\frac{1}{2}$ years, who had painful distension of the abdomen for a fortnight, more marked on the right side, and febrile disturbance. A fluctuating tumour was discovered in the right flank. A diagnosis of hydatid cyst was made and an operation undertaken. A vertical incision was made over the most prominent part of the tumour, which, after cutting through the peritoneum, was found to be covered by adherent mesentery; a loop of intestine crossed it from above downwards and seemed fixed to it. Puncture drew off $1\frac{1}{2}$ litres of dark green fluid like bile, and towards the end of the puncture a certain quantity of membranous material escaped. The tumour was then incised, and exploration of the cavity showed that the walls were thick and apparently of muscular structure. The relations of the tumour to the biliary passages and liver could not be exactly ascertained. The child got quite well. Cases of this kind are rare; the author was only able to collect twenty-four, in eleven of which surgical intervention was undertaken with two cures.

On Delirium in Tubercular Meningitis of Children.—M. P. MERKLEN, in discussing M. Mouriquand's communication at the last meeting, said that the delirium of infantile tubercular meningitis was not a systematic delirium in the ordinary acceptation of the term; it would be incompatible with the intellectual weakness connected with the illness. In certain cases there was at the same time exaggeration of automatic cerebral activity under the form of incoherent rambling, nightmares, hallucinations, and delirious ideas. The mode of deliriant reaction to the hallucinations had its origin in antecedent predisposition, either hereditary or acquired. This delirium is for the most part sad and depressing, but no exact rule can be laid down and sometimes the illness commences with maniacal excitement. The seat of the lesions is not the only factor in the delirium of tubercular meningitis; hypertension of the cerebro-spinal fluid and microscopic changes in the cortex play their part also. But it is none the less true that practically the occurrence of delirium means that the convexity in particular of the frontal lobes is implicated. The application of this rule, strengthened by the absence of basilar and bulbar symptoms, may lead to a precise diagnosis.

Syphilitic Onychia in Infants.—MM. J. HALLÉ and G. RAILLIET showed a girl, aged 1 year, in whom the nails, instead of presenting a slight convex transverse curvature, took the form of an almost complete cylinder, the two lateral borders tending to approach one another. They were amber-coloured.

Analgesia and Mutilating Whitlow.—M. ANDRÉ THOMAS and R. LABBÉ showed a boy, aged $4\frac{1}{2}$ years, who from the age of $2\frac{1}{2}$ years was attacked with intermittent suppuration of the digital phalanges which ended in mutilation with atrophy or even total loss of the ungual phalanx. The child was robust and in good health. The ætiology is unknown.

Dwarfism of Suprarenal Origin (?)—MM. VARIOT and PIRONNEAU showed photographs of a remarkable case, a girl, who, at 15 years, had the height of one of five, and the weight relatively still lower; the facial expression was old, there was hardly any hair, and the skull was small, the skin of the face wrinkled, withered, and parchment-like, and being almost devoid of fat showed up the malar prominences and maxillary depressions; the eyes prominent without eyelashes or eyebrows, the nose thin and prominent; the ears, without lobule, stood out abnormally. The whole facial expression resembled that of the traditional old witch. The thorax was short, the breasts undeveloped; the abdomen bulky and distended, so that the umbilical cicatrix was unfolded. There was a slight degree of dorsal kyphosis and lumbar lordosis. The upper extremities were covered with fine skin without any fat, otherwise normally proportioned. The fingers were enlarged at the joints like the dry arthritis of old persons, the nails reduced to small, horny scales. The lower limbs showed prominent epiphyses and a slight degree of incurvation. Over the whole of the body the skin was destitute of hair, even of lanugo; it was soft, supple, and slightly greasy to the touch. Its colour was generally brownish (*bistré*), especially on the trunk, abdomen, and roots of the thighs, where it was covered with brown spots, closely set, of indefinite outline and irregular form, and about a centimetre in diameter. The teeth were irregular; second dentition had apparently only just commenced, but the molars were already carious. The palatine arch was flat, the tongue small and pointed. The spleen was not felt. Pulse feeble, 130. Red corpuscles 4,050,000. The child was very intelligent, wrote and read well. The case could not be classed with those of ordinary thyroid insufficiency; myxœdematous symptoms were conspicuously absent. It was an open question whether the ovaries or suprarenals were concerned in it.

M. APERT thought that certain disorders of growth in connection with the development of suprarenal adenomata were beginning to be recognised; these were obesity, exaggerated hairiness of the face, arrest of development of the organism from the feminine point of view, and even pseudo-hermaphroditism when the adenoma occurred early. Several of these characteristics were reversed in M. Variot's case and favoured the supposition that this girl was attacked with an affection exactly the opposite to the "hyperepinephry" of the cases he had described, that is to say, with an insufficiency of the supra-renal parenchyma.

Two Cases of Appendicitis in Young Children.—MME. NAGEOTTE-WILBOUCHEWITCH related two cases of appendicitis in children about two years of age. The diagnosis presented no difficulty; the seat of pain was as accurately localised as in patients who could describe their sensations;

several attacks had preceded those in which the diagnosis was made. One of the children came under observation the eleventh day of the attack and was not saved by operation. The other, although only operated on the twelfth day, made a complete recovery.

Paralysis of Hemiplegic Type in Epidemic Cerebro-spinal Meningitis.—MM. H. RICHARDIÈRE and E. MERLE related the case of a girl, aged $3\frac{1}{2}$ years, admitted in a state of coma, on recovering from which were observed the following multiple paralytic phenomena: First, paralysis of the right external motor oculi, which disappeared almost entirely after a few days. Second, an aphasic syndrome, the characters of which it was difficult to define owing to the child's age. This also disappeared in a fortnight. Third, a right hemiplegia which existed from the onset of the illness and presented all the characters of a cerebral paralysis; temporary participation of the face; absence of painful symptoms; absence of muscular atrophy, and disturbance of electrical reaction, followed by contractures, exaggerated reflex, and clonus.

M. MERLE also gave statistics of nine cases of this disease with notes. Clinically, the majority of the cases presented a typical picture. He noticed, however, in one case an eruption of lenticular rose spots, like those of enteric fever, appearing on the seventh day, and disappearing completely in three days.

Two Cases of Crico-tracheal Stenosis, cured by Laryngostomy.—M. GUISEZ related these cases, one of a boy, aged $5\frac{1}{2}$ years, who had worn a tracheotomy tube for two years, the other a girl, aged $4\frac{1}{2}$ years, who had worn one eighteen months.

Two Cases of Foreign Body in the Bronchus in very Young Infants: Bronchoscopy.—M. GUISEZ related these. Case 1: A child, aged 2 years; fragment of raw chestnut in right bronchus. Case 2: Child, aged 12 months; rabbit bone in right bronchus. Both cases recovered after extraction of the body.

Peritoneal Complications of Scarlatina.—MM. A. TOURAINE and H. FENESTRE related the case of a boy, aged 14 years, who was seized with an acute attack of appendicitis, so severe as to cause a large para-appendicular abscess and marked peritoneal reaction. He contracted slight scarlatina after operation, and at the time the rash came out all the symptoms of acute peritonitis, which subsided gradually with the disappearance of the rash. The fact stands out from several similar cases published, that symptoms of peritonitis may appear with the cutaneous eruption and follow the same course, as if the integuments and the peritoneum were attacked at the same time. This peritoneal enanthem seems to occur especially in subjects whose peritoneum has been previously affected by appendicitis, enteritis, or vulvovaginitis.

Anæmia with Globular Fragility.—M. ARMAND DELILLE reported the case of a boy, aged 5 years, with slight hæmolytic jaundice. Cases of this kind are not rare among children if sought for, and the globular condition, the cause of which is unknown, may explain a certain number of infantile anæmias. All degrees of it may be found, from intense anæmia with marked diminution of globular resistance, where the hæmolytic condition causes

intense splenomegaly with acholuric cholæmia, and slight forms, on the other hand, where there are only anæmia and subicterus without splenic reaction clinically appreciable.

VINCENT DICKINSON.

Abstracts from Current Literature.

Medicine.

The physiological and pathological growth of the infant (*'La Clin. Infant.,'* August, 1910, p. 462).—**H. Hubert** finds that in infantile atrophy during the first year and in the hypotrophy of the second, the development of the brain is not arrested and that of the skeleton very little; the muscular and adipose tissues are on the contrary notably diminished. It seems that when there is a defect of nutrition, the nervous and osseous systems take all that is requisite for themselves and leave nothing for the other systems. Lowering of body-weight in relation to normal is much more pronounced than diminution of height. This disproportion has a grave prognosis if the height increases and the body-weight remains stationary or is lowered. The increase in atrophic children is very irregular. Weight atrophy is more pronounced than statural atrophy, and if retarded increase is estimated solely by the scales an index of atrophy is obtained in excess of what really exists, so that infants would be considered atrophic who are only temporarily thin. The height, on the contrary, is stationary, and dominated by the skeleton, in accordance with Variot's rule that children are as old as their height and not as their weight. A large number of radiographs of the bones of the hand of children, both normal and atrophic, proves that the appearance of complementary osseous points at the extremities of the metacarpal bones takes place invariably at the time the height reaches 75 or 76 cm., whatever be the age of the infant, and never before.

VINCENT DICKINSON.

The hereditary and congenital causes of exceptional development (*'Med. Record,'* July 9, 1910, p. 48).—**E. L. Hunt**.—The causes which make posterity abnormal and unusual are largely introduced by man, whilst Nature's effort is always to return to the normal and usual. Of these causes the chief are defective heredity, tuberculosis and alcoholism. The ancestral taint most frequently takes the form of a defect of the nervous system, especially idiocy or insanity, but the mere presence of a neuropathic diathesis or unstable equilibrium may suffice, particularly in association with defective environment. Epilepsy is another important hereditary factor in the production of the exceptional child. Tuberculosis is the most important disease in this respect, and seems to transmit defective nervous tissue with greater ease than any other. The evidence of the importance of inter-marriage is conflicting, but probably consanguineous marriage is not in itself a cause of exceptional development. The influence of alcohol is powerful, by its degenerating effect on the body, transmitted frequently to the succeeding generations. The mental condition of the mother during pregnancy is of no importance in producing abnormal offspring, but shock and fright to the pregnant mother are known to have been influential in certain instances. The physical condition of the mother is of more moment. Abnormal con-

ditions prevailing at the time of the birth have been given too important a place in the ætiological list.

FREDERICK LANGMEAD.

Should the tuberculous mother nurse her offspring? (*Charlotte Med. Journ.*, 1910, p. 383).—**C. P. Ambler** answers this question in the negative. The drain and strain on the mother are too great, although the milk from such a patient usually agrees with and nourishes the babe. The danger to the infant lies in the fact that tubercle bacilli are inhaled and swallowed. The infant should be taken out of the infected house and separated from the mother.

J. ALLAN.

The relation between the beri-beri of the infant and the mother's milk (*Sei-I-Kwai Med. Journ.*, 1910, p. 525).—**C. Inagaki** and **Y. Nakayama** examined forty cases of beri-beri in sucklings, and found that the symptoms in the mothers were very slight and consisted of a tired feeling in the knees, a tendency to constipation and palpitation on going upstairs, while the physical signs were exaggeration of the knee-jerks, tenderness in the calf-muscles, and accentuation of the pulmonary second sound. Subsequently the mothers gradually developed the disease. Experiments on a frog's heart showed that when the infant has well-marked signs of beri-beri the mother's milk has the property of diminishing the cardiac contractions and even of stopping the heart in diastole, although the mother has very slight symptoms of the disease. The specific gravity of the milks of healthy and of beri-beri mothers is the same, and the salts in the milk when mixed with Ringer's solution and applied to the frog's heart do not affect it in any way. The writers conclude that the changes produced in the cardiac contractions are due to the presence of the toxin of beri-beri in the mother's milk, and that the quantity of the toxin is proportional to the severity of the symptoms in the nursing, and bears no relation to the severity of the symptoms in the mother.

J. D. ROLLESTON.

The relation between nurslings' beri-beri and mother's milk (*Sei-I-Kwai Med. Journ.*, 1910, p. 529).—**C. Inagaki** and **M. Nemori**, in an investigation of an epidemic of beri-beri in Formosa, found that normal mother's milk never contains the substance which causes a change in the contractions of the frog's heart. Nurslings do not suffer from beri-beri as long as the beri-beri poison does not appear in the milk, although the mothers may show marked symptoms of the disease. On the other hand, when the nursing shows marked symptoms of the disease the mother's milk always contains the beri-beri poison, and the child gets worse and may die if kept on the same milk, but if fed on cow's milk, recovers. When the mammary glands are secreting the beri-beri poison the mother has usually no beri-beri symptoms, and the symptoms may appear some time after she has stopped nursing. The secretion of the poison is most marked if the mother is constipated, and decreases and disappears entirely under the influence of purgatives.

J. D. ROLLESTON.

The use of lactose in the feeding of infants (*Lyon Méd.*, 1910, No. 9, p. 989).—**Péhu** and **Porcher** as the result of their experiments find that lactose is very useful in the feeding of infants: either of the different varieties may be used indiscriminately. It is entirely utilised by the organism in quantities of 18 to 36 grm. daily. At the commencement of the administration care should be exercised. In infants very different

degrees of tolerance exist, and it is probable that these individual variations are due to a more or less active secretion of lactose. Caution is especially necessary in the summer on account of the prevalence of digestive troubles at this time of year. Used in suitable doses lactose is an efficient intestinal regulator; it is laxative without being irritant, modifies the consistence of the stools, and renders their expulsion easy. It also increases the body-weight.

VINCENT DICKINSON.

On the use of other sugars than lactose in infant feeding (*Lyon M'd.*, 1910, No. 20, p. 1030).—**Péhu** and **Porcher** have made experiments on the use of saccharose, mannite, glucose, levulose, maltose, and raffinose. Given with the usual food and mixed with milk, in normal infants both levulose and glucose chemically pure have a certain purgative effect. Levulose has the more marked action of the two; in doses of 18 to 24 grm. daily it caused grey, fœtid, loose stools. One dose of 6 to 9 grm. is laxative, but not in the same way as lactose; the intestinal evacuation is less regular and less complete. Glucose, if chemically pure, has a better and surer action; with 4 grm. daily good stools are obtained in habitually constipated infants. It has been long known that honey is laxative, and that the injection of large quantities of raisins produces less solid stools and often true diarrhœa. Manna and mannite are also well established as laxatives or purgatives. Mannite in doses of 3 grm. daily produces a copious intestinal evacuation. Apart from the question of price mannite is a very useful medicament; it is not over sweet to the taste (like manna), and infants take it readily. Lactose and maltose have an almost equal effect on digestive processes. Both regulate intestinal excretion, and when given in suitable doses, without going beyond the limit of tolerance, they promote the expulsion of soft homogeneous stools. The use of saccharose or raffinose does not at first produce any marked change in the stools, but if their use is persisted in for four or five days in relatively large doses (36 to 42 grm. daily) constipation invariably ensues, intestinal evacuation becomes more difficult, and the stools dry and hard. In practice the cost of these sugars must be taken into account; levulose and raffinose are costly. Their use is therefore limited to two of them—cane-sugar and lactose. These two bixesoses are not replaceable one by the other, but each is indicated in definite cases.

VINCENT DICKINSON.

The soy bean as an article of diet for infants (*Journ. of Amer. Med. Assoc.*, May 21, 1910).—**Ruhräh** recommends the soy bean as a means of supplying protein in a digestible form in the case of infants for whom mother's milk is not available or the protein of cow's milk is unsuitable. Flour made from the bean contains protein 44·6 per cent., fat 19·4 per cent., cane-sugar 9·3 per cent., and no starch. Each ounce of the gruel flour yields about 13 grm. of protein and 120 calories. In summer diarrhœa and certain forms of intestinal disturbance a weak gruel (one to two table-spoonfuls to the quart) made from the bean or preferably from the flour is of great value; later, milk may be added with advantage.

T. R. WHIPHAM.

Anasarca from excess of chlorides in the diet (*Ann. de Med. et Chir. inf.*, 1910, p. 353).—**C. Leroux**.—A girl, aged 10 months, was brought to hospital with generalised anasarca. There was no cachexia, and only a slight amount of albumin was present in the urine. On inquiry it was found that for the last four months the child had been fed exclusively on

salted vegetable soup, of which she had been given 1-1½ litres daily. Milk diet with sweetened soup and sodium citrate solution were ordered, and in twelve days all the œdema had disappeared.

J. D. ROLLESTON.

The normal blood-pressure in children ('*Corresp.-Blatt f. Schweiz. Aerzte*,' May 10, 1910).—Seiler has determined the normal blood-pressure in children at different ages, which will be of clinical value as no standard hitherto has been available. His results are as follows:

Age.	Minimum.	Maximum.
2-3 years . . .	70-75 mm. Hg.	75-80 mm. Hg.
4-5 " . . .	75-85 " . . .	79-90 " . . .
6-7 " . . .	72-87 " . . .	85-95 " . . .
8-9 " . . .	87-89 " . . .	90-95 " . . .
10-11 " . . .	87-90 " . . .	93-96 " . . .
12-13 " . . .	84-99 " . . .	94-106 " . . .
14-15 " . . .	88-98 " . . .	93-104 " . . .
16-17 " . . .	95-110 " . . .	103-120 " . . .

T. R. WHIPHAM.

Circulatory failure in the acute infections of children ('*Arch. of Pediat.*,' xxvii, 1910, p. 332).—J. Howland.—Three distinct causes have been assigned for circulatory failure in the acute infections: (1) Anatomical changes in the heart. (2) Functional disability of the heart with or without anatomical change. (3) Vascular paralysis due to central influences. Experimental infection of animals with the diphtheria bacillus, pneumococcus, *Bacillus pyocyaneus*, and streptococcus, has shown that the chief cause of death is a vaso-motor paralysis. Howland and Hoobler made a series of observations on children as to the effect of intra-muscular injections of caffeine, camphor, and adrenalin on the blood-pressure in pneumonia. All three drugs raised the pressure, adrenalin more promptly than the rest, but its effect was evanescent. The best results were obtained with caffeine. Increase in blood-pressure began in five to ten minutes, reached its maximum in nearly half an hour, and was manifest for two hours or more. Camphor was satisfactory, but its action was less certain and prolonged than caffeine. Cold air raised the blood-pressure more constantly and satisfactorily than any drug, as was shown by moving patients on to the balcony, when there was a constant rise of 10-15 mm. This effect was due, not to the oxygen in the air, but to the reflex stimulation of the vaso-motor centre by the cold on the face and nasal mucous membrane. In support of this view is the fact that pneumonia cases treated out-of-doors did better in the cold months than in the warm.

J. D. ROLLESTON.

Irregularities of the heart in childhood ('*Therap. der Gegenwart*,' May, 1910).—Hirsch finds that a relative hypertrophy in the walls of the arteries is not uncommon in older children and at puberty. Palpitations and oppression in the chest may also occur, but the blood-pressure is not materially raised. The condition is a growth-hypertrophy as a rule, though masturbation may produce a similar condition. The absence of a murmur and signs of cardiac dilatation and the fact that exercise does not aggravate the symptoms render an organic lesion improbable. Children are liable to a harmless arrhythmia in which the pulse is full and strong, diastole alone varying in length. With acceleration of the heart's action this irregularity becomes less marked, as abnormally long diastoles are then shortened. Arrhythmia due to organic disease is generally the result of extra systoles,

although the latter may sometimes be due to an organic nervous affection. The arrhythmia in tuberculous meningitis is of the infantile type and seems to be due exclusively to diastoles of varying length. Heart murmurs may also be heard without there being any organic lesion; thus Lütthje found systolic murmurs in 623 out of 854 cases, but only 2 per cent. had certain signs of valvular disease. Beyer also found the same in 352 out of 830 school children, most frequently in girls. In 253 cases the murmur was audible during repose, but in the others only after exercise. In only 14 cases were signs of heart disease detected. Hirsch explains these accidental murmurs as due to physiological and anatomical peculiarities of the circulation in children, such as a more rapid flow of blood in the anæmic or a slight transient muscular mitral insufficiency.

T. R. WHIPHAM.

Cases of congenital heart disease (*'St. Thomas's Hospital Reports,'* vol. xxxvii, 1908, p. 83).—**G. G. Butler.**—There were seven cases. Cyanosis was marked in all except one. Clubbing of the fingers and toes was marked in two, absent in five. Blood-counts were performed in three cases: Female, aged 23 years, reds 5,000,000. Male, aged 5 years, reds 7,500,000; hæmoglobin 105 per cent. Female, aged 18 years, reds 5,000,000; hæmoglobin 84 per cent. Of fatal cases: Female, aged 8 months. Bronchitis since birth; cyanosis marked; no clubbing of fingers; coloboma of iris and choroid. Systolic murmur all over præcordium, best heard in pulmonary region and conducted into the neck. Post-mortem: Intense broncho-pneumonia; patent ductus arteriosus. Male, aged 13 months, with a history of weakness and lividity since birth. Cyanosis; no clubbing; loud systolic murmur over pulmonary area. Died during right-sided fit. Post-mortem: Heart normal size; pulmonary artery size of a quill, opening without valves into upper right hand corner of the ventricle. Patent ductus arteriosus. Upper third of interventricular septum patent; aorta opening into both ventricles. Foramen ovale patent. Cortical veins and the superior longitudinal sinus were thrombosed. Entire brain softened and pulpy. Left middle cerebral and left anterior cerebral arteries thrombosed.

JAMES E. H. SAWYER (Birmingham).

Pericarditis in childhood (*'Pediatrics,'* xxii, 1910, p. 353).—**Poynton,** in the course of his remarks on the three forms of pericarditis, rheumatic, suppurative, and tubercular, urges the use of the term "rheumatism" in a sense corresponding to the term "tuberculosis," as much of the life-history of rheumatism in childhood turns upon the smouldering of the infection in the tissues. He states that there is a great vital resistance to rheumatism and to tuberculosis, also a "damping down" in both diseases, and that, just as when tuberculosis gets a sufficient hold upon a patient it cannot be exterminated, so in rheumatism there are many cases which are never really free from exacerbations of the original infection. He points out that in general pericarditis there is often little pain, also that in childhood paracentesis pericardii is rarely required. Suppurative pericarditis, a very fatal disease, is generally pneumococcal in origin; there is a multiple infection; over 90 per cent. are associated with empyema, pneumonia and pleurisy, but he does not think that pericarditis is secondary in the sense that there is direct extension. As a contrast to rheumatic pericarditis it is a disease of very young children (under four). Tubercular pericarditis, he thinks, is rare, but not so rare as thought by some; it may be divided into two groups: in one there is much clear or blood-stained effusion; in the other there is dry

pericarditis with friction. Recurrent serous effusions are frequent, and all the cases he has traced to the end have died of tubercular meningitis.

J. E. BULLOCK.

Aortic regurgitation in an infant ('*Lancet*,' 1910, II, p. 802).—W. Ansley-Young records a case in a boy, aged 18 months, whose mother, aged 28 years, had had two attacks of rheumatism, the first six years and the second two and a half years previously, without apparent effect on the heart. It is uncertain whether the child's lesion was due to endocarditis *in utero* or to a congenital malformation of the aortic valves. The only other child, a girl, aged 5 years, had a normal heart.

J. D. ROLLESTON.

Infection from *Bacillus hæmophilus* in infants and sucklings ('*Clin. Med. Ital.*,' p. 81, 1910).—G. Menabuoni describes three typical cases in detail. Since its description in 1892 by Pfeiffer and Bruschettini as the cause of influenza the *Bacillus hæmophilus* has gained in importance, since apart from the question whether it is the true agent in this disease, it has been established that by localising in different organs of the respiratory system it is capable of producing the most varied affections. From the author's cases there seems no doubt that septicæmic conditions may be caused by the *Bacillus hæmophilus*, towards which new-born infants and sucklings have a marked susceptibility. Apart from a few severe cases reported in medical literature the great majority have been observed in infants under the age of one year, and the cases reported by the author were in two new-born infants and one suckling, and confirm the hypothesis that the organism at this tender age affords a favourable soil for the *B. hæmophilus* as it does to other kinds of pyogenic germs.

VINCENT DICKINSON.

Hæmorrhagic disease of the new-born ('*Amer. Journ. of the Med. Sciences*,' July, 1910).—Schwartz and Ottenberg draw attention to the delay or absence of coagulation in the hæmorrhagic disease of the new-born and describe two cases. The first case was probably syphilitic and the child was nursed at a suppurating breast. After seven days multiple hæmorrhages began to appear and the blood showed a total absence of coagulation. The injection of serum had no effect on either the coagulation or the hæmorrhages and transfusion from the father was undertaken. At the end of the transfusion the child's coagulation-time was the same as that of the father—three and a half minutes. The coagulating power subsequently became less again and the child died eight days later, though not exsanguinated. The second case, also syphilitic, had similar hæmorrhages with prolonged coagulation-time, and the blood was sterile. Death occurred eight hours after the child was seen. The authors are of opinion that impaired blood-coagulation is the cause of uncontrollable hæmorrhages in the new-born, and that this is probably due to destruction, or interference with the production of thrombokinase. Bacterial infection is the commonest underlying cause of the disease, but syphilis alone can cause it without bacterial infection. The value of serum injections is doubtful, but transfusion should be tried when ordinary measures have failed.

T. R. WHIPHAM.

A hæmophilic pedigree ('*Indian Med. Gaz.*,' June, 1910, p. 215).—Malcolm Macnichol records two families of "bleeders" occurring in a small community of under one hundred persons in Bengal, although hæmophilia is said to be extremely rare in India. In one family seven examples of this condition occurred in three successive generations, transmission being in the usual way through the unaffected females. Of this family a genealogical tree is given.

REGINALD MILLER.

Clinical signs of hypertrophied thymus (*Presse Méd.*, April 9, 1910).—**D'Oelsnitz** details the symptoms and signs observed in five cases of enlargement of the thymus. The children were between the ages of six months and three years. The breathing is suffocative, but differs from that of croup in that the chest changes its shape during inspiration, the sternum protruding and the lateral diameter diminishing. The dyspnoea is also increased by the recumbent position and by hyperextension of the head. In some cases the early symptoms resembled those of laryngismus stridulus, so that in every case of persistent and marked laryngismus stridulus it is advisable to examine for possible enlargement of the thymus. The temperature is sometimes raised. In two cases there was slight persistent cyanosis of the face, and in one abnormal tension of the fontanelle. On crying the superficial veins in the neck become engorged. An important sign is the asymmetrical protuberance of the sternum and first two costal cartilages on the right side on inspiration. This may be found on palpation and by inspection from the side as the child lies on its back. There is dulness over the protuberance, and the X rays show an abnormal shadow in this situation.

T. R. WHIPHAM.

Hæmorrhage into the supra-renals due to chloroform (*Bull. de la Soc. de Pédi.*, March, 1910).—**Savariaud, Pellot** and **Tinel** report the case of a boy, aged 8 years, who was anæsthetised with chloroform for an operation on a ventral hernia eighteen months after appendicectomy. The operation proceeded smoothly, but soon afterwards the patient became restless and showed signs of acute intoxication, viz. green diarrhoea and vomiting, profound depression with a lowered blood-pressure, tachycardia and a tendency to erythema. Death occurred on the sixth day. The supra-renals were the seat of extensive hæmorrhage and all the organs were found to be congested.

T. R. WHIPHAM.

A case of Addison's disease in a boy, aged 12 years (*St. Thomas's Hospital Reports*, vol. xxvii, 1908, p. 114).—**G. G. Butler**.—There was sudden onset of acute abdominal pain three days before admission, followed the next day by frequent vomiting. Admitted in a delirious condition with pupils widely dilated. Pulse very small and soft. Died almost immediately. Post-mortem: No pigmentation. Left supra-renal caseous and several caseous foci in right supra-renal. Peritoneum healthy, but all mesenteric glands swollen and yellowish. Solitary follicles throughout intestines were swollen, but no ulceration. Ulceration present in cæcum, which appeared tuberculous. Culture from spleen: *Staphylococcus albus*.

JAMES E. H. SAWYER (Birmingham).

Addison's disease in children (*Thèses de Paris*, 1909-10, No. 276).—**G. Chemin** has collected fifty-five cases, including a personal one, in children whose ages ranged from seven days to sixteen years. The disease is rare in childhood. Most of the cases recorded in children have occurred at puberty or in adolescence: only six have been noted within the first decennium; thirty-two were in boys, and twenty-two in girls. Tuberculosis of the suprarenals, which is by far the most frequent cause, may be primary, but is usually secondary to infection of the lungs, peritoneum, intestines, genitals, or bones. The lesions may be unilateral, but usually both organs are affected. In a few cases children who had all the clinical symptoms of the disease showed no lesions of the suprarenals post mortem. Some cases have been recorded in which Addison's disease

was associated with atrophy or congenital absence of one suprarenal. Addison's disease in the child is distinguished from that occurring in the adult by the following symptoms: frequent pigmentation of the hair, diarrhoea, incontinence of urine, and convulsions. Its course is generally shorter than in adults, rarely exceeding two years. Death often occurs suddenly. The diagnosis rests on the presence of three cardinal symptoms: asthenia, gastro-intestinal disturbance, and melanoderma. The chief causes of error are arsenical poisoning, malaria, pediculosis, and tuberculous pigmentation. The last, however, may be associated with Addison's disease. Death is the rule, but in exceptional cases improvement and even definite recovery may take place. Chemin's own case was in a girl, aged 13 years, in whom improvement followed the administration of suprarenal extract associated with the injection of cacodylate of soda. The asthenia and gastro-intestinal disturbance disappeared, but the melanoderma was not affected. The issue of the case is not recorded.

J. D. ROLLESTON.

Otology, Rhinology, and Laryngology.

Routine otoscopy in the febrile affections of infancy and childhood (*The Cleveland Med. Journ.*, June, 1910, p. 430).—**Maschke** takes up the frequency and importance of otitis media in infancy and early childhood and goes briefly into the literature. He cites eight cases showing the importance of examining the ear in all doubtful cases of febrile affection, and he urges the grave necessity of routine otoscopy in order to save future deafness, mastoiditis, meningitis, etc.

MACLEOD YEARSLEY.

A case of sarcoma of the petrous bone (*Brit. Med. Journ.*, June 25, 1910).—**W. H. Bowen** and **H. B. Carlyll** record an interesting case in an infant (sex not stated), aged 9 months. Admitted for left ear polypus and discharge. Died about ten weeks later, the growth increasingly rapidly. Mastoid operation was performed. Histologically, the tumour was a "typical round-celled sarcoma."

MACLEOD YEARSLEY.

New operation for prominent ears (*Surg. Gyn. and Obst.*, June, 1910).—**Luckett** describes an operation for the purpose of reconstructing the fold of cartilage known as the anti-helix in cases in which the ears are turned forwards. The same principle is also applicable to the superior crus of the anti-helix in cases of "drooping ears," or to both together if necessary. A crescentic incision is first made through the skin opposite to the line of the intended new anti-helix, and the inscribed portion of skin is removed. The edges of the skin are then freed from the cartilage and retracted, and a similar crescentic segment is removed from the cartilage. The cartilage and skin are sutured separately, care being taken in the method of suturing the former. The cartilage suture is passed from the cranial side from within outwards and back again so as not to perforate the skin on the external surface; it is then carried over the excised portion, and passed on the other side from within outwards and back again like a Lembert suture in such a way that when it is drawn tight and tied the flat surfaces of the cartilage, and not the edges, will be in apposition. The edges have been turned forwards or outwards to form the anti-helix and the whole helix is thus approximated to the cranium. Four or five interrupted sutures are usually enough for the cartilage. The skin is finally sutured with horse-hair. The width of the crescentic segment of the cartilage to be removed depends upon the size of the ear and the thickness of the cartilage.

T. R. WHIPHAM.

A case of pyæmia of otitic origin with cerebral abscesses ('*Rev. Hebd. de Laryngol., etc.*,' February 6, 1909).—**M. Nicholas's** patient was a boy, aged $7\frac{1}{2}$ years, the subject of adenoids. Fever, earache, and bulging right membrane were treated by paracentesis. Later he became drowsy and vomited, complained of frontal headache and intense ear pain. Four days later an abscess appeared at the root of the neck. This was opened and a radical mastoid operation performed. He died seventeen days later, and the autopsy revealed septic thrombosis of the lateral sinus, an abscess in the right temporal lobe and one in the third right frontal convolution.

MACLEOD YEARSLEY.

Two cases of meningitis complicating middle-ear suppuration, with recovery ('*Edinburgh Med. Journ.*,' February, 1910, p. 142).—**A. Logan Turner** relates these interesting cases, one in a boy, aged 13 years, the other in a boy, aged 16 years. In the former a serous meningitis was drained by an exploratory operation upon the cerebellum. The second case was treated by lumbar puncture and anti-streptococcus serum, injected both subcutaneously and into the spinal canal.

MACLEOD YEARSLEY.

Three otogenic brain abscesses ('*Arch. f. Ohrenheilk.*,' Bd. LXXVIII, Heft 1 and 2, p. 35).—One of the cases described by **Oskar Levy** was in a girl, aged $2\frac{1}{2}$ years. The abscess followed left chronic ear discharge and was in the temporo-sphenoidal lobe. She recovered with persistent right facial paresis. She also had paresis of the left arm and leg, ascribed to serous meningitis of the right cerebral hemisphere (side opposite to affected ear).

MACLEOD YEARSLEY.

The deaf child from the view-point of the physician and of the teacher ('*Glasgow Med. Journ.*,' July, 1910, p. 1).—**James Kerr Love**, in a long paper, gives an excellent historical *résumé* of this question. The chief points discussed in the article are: (1) The education of deaf children without previous clinical examination and classification is wasteful and inefficient. (2) The massing of deaf children in institutions should be avoided, except in the case of the mentally defective deaf. Necessitous deaf children should be fed, clad, and, where necessary, boarded out at the expense of the educational authorities. In these respects they need the same treatment as necessitous hearing children. (3) The education, but not the instruction, of deaf children should begin as soon as the fact of deafness is known, and the mothers should be the first teachers. Unless the speech habit be acquired before the age of five years the best oral results can seldom be got. In the opinion of the author the best man to carry out this work is the aural surgeon.

J. ALLAN.

Congenital occlusion of the posterior nares ('*Transvaal Med. Journ.*,' 1910, p. 206).—**Koch** records a case in a girl, aged 11 years, who had also congenital morbus cordis. During the first months of life her mother had frequently to open her mouth to prevent her suffocating. Anterior rhinoscopy showed a hard bony diaphragm, which could be felt by a sound, dividing the pharynx from the nose. After removing her adenoids Koch made a square opening in the bony diaphragm through the left nostril and kept the opening patent with iodoform gauze. The child was then able to breathe freely through her left nostril. The right choana was to be dealt with subsequently. Congenital obstruction of the nose is very rare. There are only forty-one other cases on record.

J. D. ROLLESTON.

Two unusual cases of maxillary sinusitis (*Annales de Méd. et Chir. Inf.*, 1910, p. 207).—**Guisez** describes these. (1) Child, aged 6 years, with osteo-myelitic maxillary sinusitis following dental caries. Operation revealed a widespread necrosis of the superior maxilla. Septicæmia followed, and death from thrombosis of the ophthalmic vein and cavernous sinus. (2) Child, aged 4 years; osteomyelitic sinusitis following dental caries. This patient coughed up thick pus. Transillumination showed no shadow. Puncture gave no result, the sinus being double (as shown by subsequent operation), and the antero-internal division was healthy.

MACLEOD YEARSLEY.

Adenoids; their influence upon the mental condition (*New York Med. Record*, July 30, 1910, p. 213).—**Koppel, Eagleton** and **Wilson** discuss this question. Koppel pleaded the advisability of caring for cases of adenoids as soon as possible. At one school in Jersey City fifty cases all were below the mental average at their respective ages. Eagleton pointed out the association of choreic conditions with adenoids, and alluded to one case of Mongolian mental deficiency which had shown marked improvement after an adenoid operation.

MACLEOD YEARSLEY.

The care of children after an operation upon the tonsils and adenoid tissue (*The Cleveland Med. Journ.*, April, 1910, p. 256).—**Ingersoll** points out the anatomical peculiarities of the child's naso-pharynx, and dwells upon the improvements in the technique of tonsil and adenoid operations. He advises attention to the following points after operation: (1) Remaining in bed for two days. (2) Teaspoonful doses of cold water every five minutes after the operation. (3) No food until the following day (presuming the operation is done in the afternoon). (4) The third day after operation, fresh air, if the weather is favourable. (5) Hot applications or ice-bags to the ears, if there be otalgia. Gargles and sprays are prohibited.

MACLEOD YEARSLEY.

Tonsil research (*New York Med. Record*, July 9, 1910, p. 56).—**R. B. Faulkner** discusses this question and reviles surgery generally. He criticises Ballenger's indictment of the tonsils and considers complete ablation too severe, and makes the remarkable statement that "many die from tonsil operations!" The long-exploded bogey of wounding the internal carotid artery is paraded in all its grisly terrors. A long list of post-operative complications is given, each of which is referred to as if it had claimed its millions of victims instead of its hundreds. The paper reads as if operations upon the tonsils were the most dangerous in surgery.

MACLEOD YEARSLEY.

The tonsils as sources of general infection (*The Cleveland Med. Journ.*, July, 1910, p. 534).—**T. A. Burke**, speaking of the whole tonsillar belt—Waldeyer's ring—urges its careful consideration, remarking that the tonsil is of greater clinical importance than the appendix; and that it causes more suffering and more deaths.

MACLEOD YEARSLEY.

Primary streptococcus diphtheria (*New York Med. Record*, August 13, 1910, p. 276).—**Orgel** analyses one hundred cases in private practice and summarises as follows: (1) The severe form of primary streptococcus diphtheria occurs oftener than we have been led to believe. (2) Complications of suppuration of the cervical glands occur frequently. (3) Acute exudative nephritis occurs as a complication in all severe cases and in some becomes chronic.

MACLEOD YEARSLEY.

A case of congenital cyst of the soft palate (*Monats. f. Ohrenheilk.,* Year 44, No. 3).—**E. Bergh** describes a baby boy, aged 7 months, with restless sleep, difficulty in breathing, and cough. With deep inspiration a white body came into view behind the soft palate. It was removed with scissors from the posterior aspect of the uvula, to which it was attached by a pedicle. It was the size of an almond, and proved to be a thin-walled cyst lined with pavement epithelium and containing a thin fluid.

MACLEOD YEARSLEY.

Cyst of epiglottis (*The Laryngoscope,* September, 1909, p. 704).—**J. C. Beck** reports the case of a child, aged 5 years, who was admitted with urgent dyspnoea, which required immediate tracheotomy. The diagnosis made was either papilloma or myxoma with oedema of the glottis. Some weeks later, by the direct method, an attempt was made to remove the growth with a snare; it, however, ruptured during removal. As much of the wall as possible was therefore removed and the cavity cauterised. Seven months later when the child was seen it was found that a recurrence had taken place; the cyst was therefore removed by external pharyngotomy.

GEORGE N. BIGGS.

Foreign body in the larynx; report of a case (*The Cleveland Med. Journ.,* June, 1910, p. 437).—**Monson** reports the case of an infant (female), aged 6 months, in whom a piece of tinfoil remained lodged in the larynx for three months, the child dying some few days after a low tracheotomy had been performed.

MACLEOD YEARSLEY.

Date-stone in trachea (*Canadian Journ. of Med. and Surg.,* July, 1909).—**D. J. G. Wishart** describes the case of a boy, aged 4 years, with tracheal tugging and laryngeal obstruction. The trachea was opened without relief to the symptoms, so curved forceps were introduced and the mucous membrane irritated. An expulsive cough followed and a date-stone was expelled.

MACLEOD YEARSLEY.

School Hygiene.

Medical inspection of school children (*Edinburgh Med. Journ.,* 1910, p. 43).—**James Dundas**, writing on certain aspects of school medical inspection, expresses the following opinions: Medical inspection of schools can be most usefully administered from the medical officer of health's office, and the medical officer of health should be the school medical officer. This arrangement is to be preferred to that which involves dual authority. In some districts part-time medical inspectors, who are also in general practice, may act as assistants to the supervising officer, but as a general rule the scheme could be more efficiently and economically carried out with whole-time assistant medical inspectors. The logical sequel of inspection is treatment. The author thinks it is the bounden duty of the State to do something in the matter, and he suggests that in the meantime treatment should be strictly limited to those conditions which demand prolonged absence from school or in which parents are too indifferent to take action. In medical inspection the active co-operation of teachers is invaluable, and the goodwill of the parents should be earnestly solicited. In the concluding paragraph the author answers the question, "Is the game worth the candle?", emphatically in the affirmative.

J. ALLAN.

The use and possible abuse of athletics during the period of growth and development (*Edinburgh Med. Journ.*, 1910, p. 391).—**T. M. Burn-Murdoch**, at a meeting of the Edinburgh Medico-Chirurgical Society, March 2, 1910, opened a discussion on the above subject. The importance of regulated gymnastics along with more strenuous athletic exercises cannot be over-estimated, and should always be attended to at school. Physically, intellectually and morally, boys and girls can be benefited. Abuse of athletics may occur, but such is very rare and is to a large extent preventable. The following recommendations to assist in lessening possible abuse are given: (1) Medical examination of boys and girls. This would ensure the detection of defects and lead up to— (2) Their classification for exercise. Physical ability should form the basis for classification. (3) Proper clothing. Strict rules as to changing and drying of clothes should be enforced. (4) Relation of exercises to meal hours. Hard exercise should never be taken for at least an hour after meals. (5) Special caution as to resumption of exercise after illness. (6) Supervision of exercises by games-masters and carefully selected school captains and prefects. (7) Character of exercises. Military training and cadet corps, and runs, notably so-called distance and cross-country runs, are especially important. The speakers who followed subscribed generally to the principles given above, and testified to the great value of athletic exercises under medical supervision.

J. ALLAN.

The training of teachers in hygiene (*Edinburgh Med. Journ.*, 1910, p. 513).—**W. B. Drummond** gives a short account of his work as medical officer and lecturer on hygiene, Edinburgh Provincial Training College. The aim of the course of instruction in hygiene is definitely practical. What is intended is that the students should be taught to observe children; that they should learn to form judgments as to their state of health and nutrition; that they should learn to recognise the signs of fatigue, of debility, of nervousness; that they should become acquainted with the more frequent disorders of childhood, especially those which interfere with their own work as teachers (*e.g.* adenoids, deafness, defective vision); that they should learn to appreciate the dangers to which children are exposed in school—from faults in the school building (bad ventilation, bad lighting, etc.), from faults in the school work (too prolonged mental strain, too fine sewing, bad postures, etc.), from faults in their neighbours (infection and contagion). Moreover, in the work of medical inspection, it is necessary that the teacher should give some assistance to the medical examiner, and therefore the teachers are taught how to weigh and measure children and to make and record other observations. It is not intended to make the student "a kind of doctor," but it is hoped that he may be helped to recognise when a doctor's advice is needed. Systematic lectures are given, but these are not so important as the practical instruction. The author thinks that the course of hygiene should be given in the second year, as by that time the students will have had some experience in teaching, and will be better able to realise the practical importance of the matter and to make observations on children. The routine of the course adopted by the author is detailed.

J. ALLAN.

Ventilation in schools (*Medical Record*, July 30, 1910, p. 173).—**W. A. Evans** emphasises the importance of efficient ventilation in schools in maintaining good health and intellectual vigour among the scholars. He points out that the air in the Chicago schools is too hot and too dry. The

temperature has ranged from 70° to 80° F., the humidity has been 30 to 40. Objectionable odours are met with in certain schools in the poorer parts of the town and in many schools on rainy days. The Chicago schools are heated and ventilated on one system, the system employed being the Waters: 1800 cubic feet of air per pupil per hour are pumped in. The result is not very satisfactory, and it has been found that the children situated at the back of the room do not get a very good supply of air. The author makes the following recommendations: (1) Reduction of the temperature of the rooms to a maximum of 68° F. (2) Raising the humidity to 60 or 70. (3) Blowing out the air of the rooms at stated intervals, and this can best be done by raising the windows and allowing the air to blow briskly through. (4) Decreasing the dust content of the air of the school room as much as possible. (5) Introduction of the air into the room so as to keep the expired air as much separated from the fresh air as possible. Details are given as to how these recommendations can be best carried out.

J. ALLAN.

Healthy and unhealthy types of children; their eugenic significance (*Journ. Roy. Inst. Public Health*, 1910, p. 219).—**J. Lionel Taylor** makes a plea for careful investigation of this subject on scientific lines. It is claimed that the following four lines of research are necessary: (1) The individual recording of cases of imperfect functioning of children in good surroundings, this being the one reliable test for inherited defect. (2) The separate collection of evidence to discover if infectivity and susceptibility, whether acquired or inherited, to disease are distinct tendencies. (3) The careful recording of disease susceptibility in different patients as measured by the individual virulence of the course of the disease in each patient and his or her relatives and not by its collective prevalence in the patient's family. (4) To inquire into the causes of vigorous and ailing states, and discover how far longevity and general disease susceptibility are related to, or independent of, either.

J. ALLAN.

The control of the acute infectious fevers amongst school children (*Journ. Roy. Inst. Public Health*, 1910, p. 152).—**Ralph P. Williams** briefly discusses the principal factors in the spread of these diseases under the following heads: (1) Personal contact; (2) vitiated atmosphere; (3) low age-limit of school attendance; (4) the system of payment of government grant on the basis of attendance; (5) the use in common of pens, slates, pencils, etc. He then gives a *résumé* of the chief means of control, and lays stress on the under-mentioned points: (a) The removal of all conditions likely to diminish the vitality of the child, and thus render him more liable to infection; (b) the importance of personal contact in the spread of these diseases; (c) increased knowledge of early symptoms—lectures to teachers and parents; (d) prompt notification to school medical officers, whose work is in close correlation with that of the medical officer of health; (e) thorough disinfection of the school after exclusion of infected children.

J. ALLAN.

The control of the commoner infectious diseases of school children (*Journ. Roy. Inst. Public Health*, 1910, p. 142).—**C. J. Russel McLean** makes the following suggestions, among others, as to methods of control. All children under five years of age should be excluded from infant depart-

ments. Children absent from school on account of illness should not be re-admitted until a medical certificate is produced, showing the child to be safe as regards infection. In a few instances the author has tried a class for "contacts" held in a separate class-room and with special hours for assembling and dismissing, but this arrangement did not work satisfactorily. The exclusion of a whole class from school on the appearance of the first case of infectious disease is theoretically a good plan, but it is impracticable in widely separate districts. The same applies to the visiting of children absent from school on account of illness, and who are unattended by a medical man, either by the medical officer of health or the school medical officer. The further erection of two-bedroomed houses should be forbidden by statute law. Teachers ought to have some knowledge of the early symptoms of infectious diseases and should co-operate with the health authorities. Disinfection of the school should not only be carried out after an outbreak of infectious disease, but there should also be regular and systematic cleansing and disinfection of the school rooms, fittings and materials, including books, papers, slates, etc. School closure (partly or wholly) may be necessary.

J. ALLAN.

Reviews of Books.

SO-CALLED CONGENITAL AND EARLY ACQUIRED RICKETS (ÜBER SOGENANNT ANGEBORENE UND ÜBER FRÜHZEITIG ERWORBENE RACHITIS).
By Dr. E. WIELAND. Berlin: S. Karger, Karlstrasse 15, 1910. Price 7 marks.

THE above embodies the researches and opinions of E. Wieland, and is the exposition of his view that "there is no such thing as congenital rickets." He gives the clinical history of 130 children at periods, immediately after birth, between the fourth and tenth month of life, and finally at the end of the first year, in support of his conclusion that rickets is always a disease of extra-uterine life, that at the time of birth there are never any clinical symptoms indicative of rickets, and that "congenital rickets" cannot be shown to be a clinical entity.

The book is divided into three sections, dealing respectively with clinical and histological researches and congenital softening of the cranium.

In opposition to the view of Kassowitz that there is a direct placental transmission of the toxin of rickets to the child, Wieland considers that the cause of the disease must be sought in conditions which affect the organism in the course of its extra-uterine development, these conditions being chemical rather than toxic. Associating cranio-tabes with rickets rather than with syphilis, he concurs with other writers in the view that the behaviour of infants towards rickets is quite different from that towards syphilis. He says: "In syphilis the toxin can pass over by way of placental circulation and directly infect the embryo, but in rickets there can at the most be the transmission of an increased predisposition to a later, that is, an extra-uterine tendency to rickets, through the germ-cells in the parent, out of which the embryo is produced *in utero* . . . What may be transmitted to the embryo by the parents, especially by the mother, is most probably not rickets, but the predisposition to the disease."

We think that Wieland's book establishes the fact that there are usually no clinical symptoms or anatomical conditions by which rickets can be

diagnosed immediately after birth, neither are any such conditions latent, but he does not direct attention to the occasional ante-natal disturbance of metabolism on the part of the mother, which may lead to rickets at birth. The table of contents is so complete that no index is necessary, there are seven full page illustrations of microscopic sections of normal ossification and of syphilitic osteochondritis, which we think are rather too diagrammatic; the paper cover and imperfect stitching detract from the lasting character of the book.

MEDICAL EXAMINATION OF SCHOOLS AND SCHOLARS. Edited by T. N. KELYNACK, M.D., with an introduction by Sir LAUDER BRUNTON, Bart. London: P. S. King & Son, 1910. Price 10s. 6d. net.

A THOROUGHLY practical guide for the school medical officer, which should also be read by all school teachers, those interested in physical education, and social reformers. Every aspect of school hygiene has been dealt with by well-recognised authorities and experts, thirty-six of whom have contributed to the work. A full account is also given of the medical inspection of school children throughout the British Isles, the Colonies, the United States of America, and such progressive countries as Germany, France, Norway, Sweden, Denmark and Switzerland. The book contains many valuable suggestions for making the best use of our present inadequate machinery for rearing a new generation of healthy citizens. The index and bibliographies are good.

Obituary.

EDUARD HEINRICH HENOCK.

WE regret to announce the death of Prof. Henoch, which occurred at Dresden on August the 25th, a little more than a month after his ninetieth birthday. He was born on July the 16th, 1820, graduated at Berlin University in 1842, was appointed professor in 1858, and director of the Children's Department of the Charité in 1872. Three years before his retirement in 1893 he was the recipient of a 'Festschrift,' edited by Prof. Baginsky, containing contributions from notable pædiatrists of all countries. His classical 'Lectures on Children's Diseases,' which were first published in 1881 and reached the tenth edition in 1899, are well known to English readers by Dr. John Thomson's translation in the New Sydenham Society's publications. The form of purpura with which his name is usually associated, characterised by vomiting, intestinal hæmorrhage and colic, was described by him in 1874. The rapidly fatal form of purpura, which he named *purpura fulminans*, was described by him in 1887. In addition to an original work on abdominal disease, published in 1852, he translated in 1846 Budd's 'Diseases of the Liver,' and edited a German version of West's 'Lectures on the Diseases of Infancy and Childhood' in 1872.

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

VOL. VII.

NOVEMBER, 1910.

No. 83.

Original Articles.

DATA AND TESTS IN THE STUDY OF THE EXCEPTIONAL
CHILD.

By MAXIMILIAN P. E. GROSZMANN, Pd.D.,

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Education of Exceptional Children, New Jersey.*

IN treating of the general subject of gathering data which would allow the teachers to understand the condition of every child in the class-room, I may be allowed to refer, in a measure, to my paper at the Boston meeting of the N.E.A. on "Danger Signals in Young Children," and to partially quote from this paper.

"Apparent disinclination to mind the teacher may be due to imperfect hearing ; aversion to reading and writing to imperfect vision. Ugliness and irritability may be caused by astigmatism, which, in its turn, produces eye strain and persistent headaches. Laziness may be a symptom of anæmia or neurasthenia, or it may be caused by malnutrition, over-exertion at home, lack of sleep, or of ventilation in the child's sleeping chamber. Fretfulness may have its source in a great number of various conditions, notably indigestion. Educators are oftentimes inclined to feel very much vexed when a child makes grimaces, is inclined to giggle and babble, and to disturb the artificial discipline of the schoolroom by whispering. And yet these manifestations, as well as others, like sniffing,

coughing, restlessness, and inattention, may be, and almost always are, symptoms of nervous disease. They may be enumerated among the so-called habit-tics or habit-spasms, like twitching, shrugging, shuffling, grinning, sighing, yawning, echolalia (the repetition of words spoken by another, as, for instance, repeating a question before answering it), uttering curious sounds, such as chirping, etc. Again, momentary inattention and absent-mindedness may be due to a mild form of *petit mal*. Sudden attacks of excitement, outbreaks of temper, destructiveness, hitting other children, and the like are clear indications of psychic epilepsy. Then there are the manifold movements characteristic of chorea, and while true hysteria is not a disease which develops before the adolescent age, there are quite a number of conditions in children which may be counted among hysterical symptoms. An emotional temperament is one of them, and the instability of will and irresponsibility another.

"Children's lies are a chapter in themselves. Books have been written on the child as a witness, showing how unreliable are the statements of children, even of those who are usually considered truthful. Stubbornness and disobedience, qualities which are usually considered largely in the sense of disciplinary conditions, may reveal themselves to the careful observer as danger-signals indicating disease of some kind.

"If it is our desire to make a more detailed study of danger-signals, we must first train ourselves in the power of observation. We must develop the observational attitude of the diagnostician and consider everything as a symptom which we cannot readily explain. And for every symptom we must train ourselves to look for a cause. Proper observation implies a careful distinction between the facts observed and the explanation we may give them. It is a very common error to interpret a condition wrongly, to substitute our opinion for an observed fact, and thus records of children are often vitiated. We allow our own personal impression and reaction to interfere with what ought to be a scientific statement. The personal equation must be ruled out as much as this is possible, and we must be careful in weighing the evidence. We must take into consideration our own emotional condition, which is a variable factor. What would seem a difficult proposition to us one day would appear simple and easy on another day. And only one who can inspire a child with confidence, and who puts the subject of observation absolutely at its ease, will gather reliable data."

Before taking up the subject of actual tests, which would enable school authorities to diagnose the case of the child, observation on

which led the teacher to believe that it needs special attention, I will take the liberty of pointing out some general conditions.

The causes of some of the symptoms enumerated, and others which have not been mentioned, may be found not so much in the child as in the school and the home of the child. Inattention, laziness, unwillingness, etc., may prove that all is not right in the relation of the teacher to the pupil, or that the school and its curriculum is not fitted for that particular child. Let me remind you once more of those children whose mentality differs from the average by representing a variation upwards. The barriers of ordinary grading must be broken down, and the school tasks must be so organised that the brighter or more active child may do more work, perhaps even within the same circle of lessons, than the slower and less intellectual child. A great deal will yet have to be said about the readjustment of our public school courses to enable us to individualise very much better than can be done under the present system. It is impossible to enter into a discussion of this tremendously important subject in this lecture. I will only emphasise as strongly as I can that we must face this part of the problem of the exceptional child with at least as much thoroughness as in handling the problem of the laggard and defective.

Two things can and must be done at once. I first refer to the hygiene of the daily programme. Experimental psychology has established data which show that there are distinct fatigue curves in the school day of a child, and that the programme must be adjusted to these curves. There is a traditional daily programme in the schools which may have to be modified. There is a maximum of energy in the forenoon from about ten to eleven, and again in the afternoon from about three to four. These maximum periods may change according to race and climate. But it stands to reason that they should be utilised, and that lessons implying greater mental strain be put into that part of the programme. And you must not forget that manual training and gymnastics are not in themselves recreation periods. They may require as much mental concentration as arithmetic. The problem of recesses and of lunches, the problem of one or two sessions, are all factors entering into the hygiene of instruction.

The second point to be mentioned is the hygiene of the *schoolroom*, with its illumination and ventilation, its blackboard arrangements, and desks and seats, and so on. Many symptoms observed in the pupils of a class are danger-signals indicating vitiated air and insufficient light.

But there are matters outside of the school which require the teacher's attention. Most of them have been discussed over and over again. It is obvious that children who are not properly nourished at home, who sleep in unhygienic quarters, who are made slaves of outside of school hours, who work hard carrying papers and doing other things before they come to school, or who are out in the streets or in amusement places, even with their parents, late at night, cannot possibly have a normal alertness during school hours, where they are supposed to do their most concentrated mental work. Through parents' meetings, mothers' clubs, parent-teachers' associations, Board of Health bulletins, and what not, efforts are being made now to remedy these conditions. I will not dilate upon them here, and only mention them as conditions which require the most serious attention of school people.

It cannot be expected that the regular grade teacher should make any special observations or give any particular special tests in the schoolroom. Children whose progress or conduct in the regular grade is irregular, if otherwise there is an elastic school curriculum, should be transferred into *observation groups*. Here, under the principal's more special supervision, a specially trained teacher, assisted by the school physician and the paediatric expert, may proceed to diagnose the individual case more closely. The special organisation in regard to the further procedure—the removal of a pupil into an ungraded class or into special schools, into hospitals, sanatoriums, farm schools, or what not—will depend upon local conditions. What we are now concerned in is the method of investigation. I will submit in outline a system of tests and examinations, based upon rational principles, which it may not be possible to carry out in all details everywhere, but which, with the increased establishment of what has been called psychological clinics, and what I would prefer to call paidological clinics, may in the long run prove to be the most efficient system.

Realising that body and mind are two aspects of the same personality, we must first endeavour to establish whether there has been normal growth in either direction. We have learned to appreciate, and Dr. C. Ward Crampton, of New York, has been one of the foremost to establish this fact, that the age of a child in years, the so-called chronological age, means little or nothing. Even the child's tailor has to recognise this fact, and will tell the mother that for this boy of ten she will have to buy a twelve-year size, and for this girl of eight, only a six-year size. But the significance of these tailor measurements has rarely dawned upon the

loving mother. And still less did the teacher dream that the child who does not wear clothes commensurate to its chronological age may also have a mind which is, in a sense, a misfit.

Just as the anatomical structure of a child may either be in advance or behind its years, likewise its mental, moral, and volitional development may be accelerated or retarded. Any discrepancy between the standards of such development for any age, as they have been determined by countless measurements and tests, is apt to cause a tension fraught with danger. An exceptionally bright child whose anatomical and physiological development is immature, is destined to suffer a collapse before complete maturity is attained; a slow child whose body growth is normal and whose functions are unimpaired may oftentimes be taxed much more intensely on the intellectual side, and eventually disclose its dormant power.

There are, then, properly and regularly repeated body measurements. These may be made as elaborate as opportunities will allow. Height and weight measurements are most important for average results; and recently Prof. Thomas Morgan Rotch, of Harvard University, has suggested an interesting test by the method of taking X-ray pictures of the wrists of the hands; the development of the carpal bones, and of the lower epiphyses of the radius and ulna, is indicative of the structural age of a child. In this connection it is interesting to remember earlier observations which showed that the freedom of wrist movement in a child is not attained before the eleventh year; a study of the carpal bones will explain to the physiologist the cause of this fact, which is very important in the matter of actual activity, including, for instance, the playing of piano, or violin, as well as sewing, painting, and penmanship.

Further observations can be made in the various provinces of the physiological functions. Facts of respiration and heart action, of appetite and digestion, of headaches and dizziness, of muscular strength and grip, enter into this group of observations. It has, for instance, been found that the grip of a hand is a good index of intellectual development.

I will omit in this connection further details about physiological tests, which can be made by the physician, such as examinations of the urine, the blood, etc.

It might seem needless to say that any weakness of the special senses must be considered a danger-signal. Yet even defects of vision and hearing are often overlooked, and what is caused by inability to see and hear distinctly is ascribed to inattention and

unwillingness. The acuteness of these two most important senses should be determined by the ordinary tests, which are so simple that they can be employed anywhere. As has been said before, eye-strain is very frequently accompanied by headaches; chronic headache is therefore a danger-signal. The other special senses—taste, smell, and touch, not to speak of the muscular sense—rarely receive the attention they deserve. Yet we often find curious defects which may be considered as indicative of incomplete potentials, and, consequently, of incomplete sensation. If we remember that under certain circumstances we may have to fall back upon one or more of these neglected senses, as in the case of Helen Keller, we may well be reminded of their importance.

Defective teeth are invariably a danger-signal. They may prove the existence of various functional diseases, hereditary or acquired, which prevent their proper formation and growth; or they may point to malnutrition and other temporary causes. In every instance defective teeth interfere with the proper mastication and digestion of food, with the protection of the naso-pharyngeal cavity, and with proper articulation.

It has often been suggested that left-handedness is a danger-signal. It certainly indicates a deviation from typical conditions. Right-handedness is a very ancient characteristic of the human race, and even primitive people are practically right-handed. Left-handedness is therefore not to be considered in the light of a primitive trait. As a matter of fact, left-handed individuals are found among the very intellectual and skilful; left-handedness is, then, not in itself a danger-signal unless it is coupled with other defects. It has been shown that the usual right-handedness may have one cause in the arrangement of the blood-supply from the heart which favours the right arm; left-handedness would, therefore, mean a reversion of this arrangement.

Another cause of the right-handedness of the great majority of men, however, is the stronger development of the left hemisphere of the brain. When, therefore, left-handedness is connected with speech defects, as it often is, it would reinforce a diagnosis of defective central condition; for speech defects, unless caused by anatomical defects in the organs of speech, can be explained only by under-development or lesion in the speech centres of the left hemisphere. Speech defects are most pronouncedly danger-signals.

Here we come to the large number of danger-signals in the development of the nervous system. And this is at the same time the province of psychological disorders. It must, however, again be

stated that there is a constant interaction between bodily and psychic conditions, and that it is impossible to separate absolutely the psychical from the physical. Bodily symptoms will indicate psychic defects, and psychic symptoms will indicate disturbance of physiologic functions. Some of the danger-signals in this province are changes of temperament (crying or laughing readily) and unwarranted attacks of temper; rapid fatiguing and disinclination for effort, drowsiness, excitability, insomnia. Of the habit-spasms I have already spoken. Then there are defects of memory and judgment as well as lack of determination and decision. A mechanical memory alone is not a sign of intelligence, and is found in remarkable development even among imbeciles. Precocity is another sign of eventual nervous strain and derailment.

Some very complete measuring scales for intelligence have been recently suggested by such men as Dr. Sante de Sanetis, of the University of Rome, Italy, and the famous French psychologist, Dr. Binet. They combine motor, sense, and intellect tests, so graded that we may determine the psychological age of a child by applying them systematically. As they have been tried with a great many children they may be considered fit to give truthful results. If, for instance, a child of nine years cannot respond properly to all the tests suggested for children of this age, but only to those prescribed for children of eight or even seven, we have a grave danger-signal in the matter of intellectual development.

In the sphere of will we must consider signs of weakness and indecision, of wavering and changeability; and any perversion of will, moral defects, like persistent lying and stealing, are plain indications of pathological development.

The Binet tests do not include any will-tests, and it is difficult to devise any for any special set of observations, except that the reaction of the child in general will allow of conclusions in regard to the volitional element, the element of attention, concentration, and purposefulness.

Binet has elaborated tests for children of three to thirteen, and for ordinary purposes in the school practice they are sufficient. Children who can pass the judgment tests devised for the age of twelve to thirteen may be assumed to have sufficient rational endowments to proceed further, or more broadly speaking, persons, even though they should be older chronologically, who can satisfy these tests, may be retarded, but certainly are not arrested in their development. We may venture the assertion that "arrested" development does not rise above the tests for the tenth or eleventh year.

The Binet tests have been Americanised by Dr. Goddard, of Vineland, and I have myself modified them to meet some criticisms which may perhaps be made against them.

My own main criticisms are that they are somewhat meagre, and that it is perhaps delusive to have them so minutely graded by years. I have been for years at work on a set of intellectual tests, which are now approaching final shape, and in which I divide the children into groups on a little different basis. It has been my endeavour to develop the essential truths in the "culture epoch" theory, so that it may correspond with the realities of child life, while in its old and crude form it has met with much just criticism. In my forthcoming book on 'The Career of the Elementary Child from the Kindergarten to the High School,'* those who are interested will find a complete elucidation of my own conception of this theory. Suffice it to say here that I have divided the development of the child from infancy to maturity into four principal periods. The first of these is the *human-animal stage*, up to about the fifth or sixth year. The second is the *race period*, from six to eleven. During this period those characteristics develop which differentiate one race from another. In the third, from eleven to fifteen, the *national characteristics* arise, and in the fourth, from fifteen upwards, *family traits* and *individual tendencies* assert themselves vigorously. There are, naturally, subdivisions. For instance, the second year in a mentally normal child marks the *naming period*, when a child is instinctively bent upon learning and applying the *names* of things. The next year develops the conception "of the outside" and "inside" of the body. Following is the period of doll feticism, a tendency which, especially in girls, lingers through the second main period. The last year or two of the first stage, let us say the fifth year, matures the tendency to *count*, and in this way leads over to the next stage, as counting introduces the number concept. The years from ten to twelve are the pre-pubertal years when tribal instincts arise. The individualistic period is also the adolescent stage.

In my own tests I am endeavouring to meet the emergencies of these periods and sub-periods rather than of single years. To elaborate a really satisfactory set of tests will require considerably more detailed study and research, and we must exercise patience before the final aim can be achieved. But what we have developed so far will allow us to make a good beginning in grading children psychologically.

"To make the status of a child still more evident, it will be

* Boston: The Gorham Press, Richard G. Badger.

necessary to include data from the earliest history of the child, and as much of the family history as can be ascertained. Only a complete tabulation of all these data will show all the danger-signals which we ought to know about in their perspective, so that we may neither under-estimate nor over-estimate. It is evident that any single fact may mean little or nothing unless it is taken in conjunction with other facts. And a consensus of various observers will eliminate the element of personal error or emotional bias.”*

Investigations like these in their totality may appear staggering, and it may, perhaps, be claimed that it is impossible to study every child so minutely. Perhaps it is, and it may not be necessary to go into so many details with every child. Parents, of course, will have to learn to know their children much better than they do now, and they have many more opportunities and more time for detailed study. But for school purposes only a minority of the children need closer examination, and only a small fraction will need the searching study here suggested. If the observation class does its work and the special children are properly transferred, a way will be found to give those who need it the most the benefit of such work.

A large school system will find ways and means through the co-operation of your school officers with the Board of Health, with medical experts and social workers, to develop this system in its entirety, if not at once, then certainly by successive steps. Smaller school systems may have to be fitted with a simpler organisation, but the more essential tests, even including tests of the special senses, and the Binet or my own tests, together with body measurements, can be made in every ever so modest school. They do not require elaborate apparatus at all, and there will always be physicians broad-minded enough to assist the school authorities whenever special examinations are needed. Neurologists, oculists, dental surgeons, and other specialists have always been ready to come forward to do their share voluntarily. In fact, the medical profession has done a great deal in opening our eyes to the necessity of this work. What cannot be done by one township can be done by the country for the schools of all the townships. What cannot be done by a country can be done by the State. When we once realise what should be done it will be done. Even in the present embryonic stage of the work with the exceptional child, agencies for investigating its status are springing up everywhere, and they will carry their usefulness through field-work and organisation into the smallest hamlet. Let us establish in our own minds a complete

* “Danger Signals in Young Children,” N. E. A. Meeting, Boston, July, 1910.

understanding of the problem, and let us all do our best to spread the gospel and to carry out as much of the work as is within our reach.

AURICULAR AND PERI-AURICULAR DERMoids, FISTULÆ, AND TUMOURS OF CONGENITAL ORIGIN.

By J. HOWELL EVANS, M.A., M.B., M.Ch.Oxon., F.R.C.S.Eng.,
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the Cancer Hospital; Late Hunterian Professor, Royal College of Surgeons.*

THERE is a common fallacy handed down by the scribe from book to book that congenital irregularities of all degrees are more prone to malignant disease than normal tissues. Thus a premise of ill-founded origin has become an obstacle to many an investigation on cancer.

The manifold configurations of the external ear arising out of the fusion of several units in a region of great complexity, though of great interest in the study of our evolution from aquatic ancestors, first drew the writer's attention as a suitable source for inquiry into any relations existing between congenital lesions and cancer.

The development of the special sense organ of hearing is purely ectodermal, and entirely separated from the brain.

Morphologically the ear consists of two distinct parts:

(1) The auditory organ proper—the otocyst or membranous labyrinth—of ectodermal origin, and presently to be considered in relation with post-auricular dermoids.

(2) The accessory parts, of which we will here only consider the external ear. These accessory parts arise by modification of the mandibular and hyoid branchial arches and of the hyo-mandibular cleft.

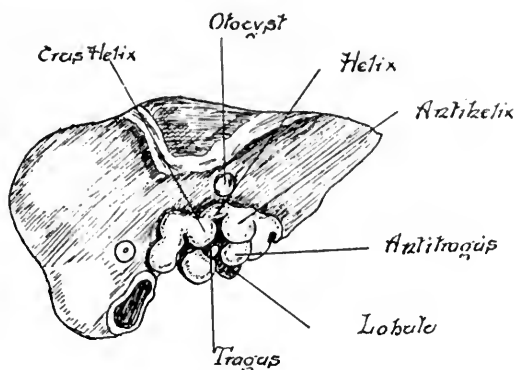
The external ear.—Before the end of the first month of intra-uterine life a series of six rounded eminences known as the auditory tubercles make their appearance around the hyomandibular cleft; with their resulting fusion and metamorphosis the pinna is formed. Until the third month there is no difficulty in identifying these primary tubercles, but during this period rapid changes occur and the greater number of malformations are produced.

As the result of imperfect fusion of these auricular tubercles supernumerary tubercles or auricular fistulæ may occur. If the orifice of the fistula becomes closed a dermoid cyst of the pinna

forms. By vascular, pigmentary or hairy irregularities, and other inclusions, pigmentary areas, hairy patches, hypertrichosis, naevi (hæmangiomata and lymphangiomata) and even teratomata occur.

These anomalies are more usually seen in the region of junction

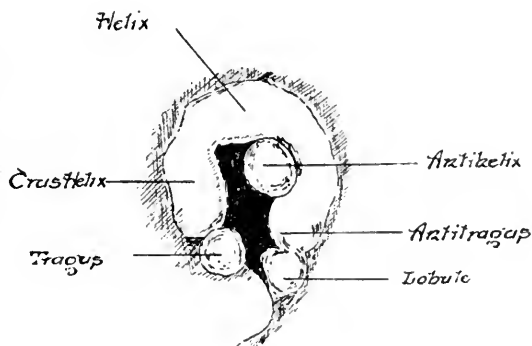
FIG. 1.



of tragus with crus helices, of crus helices with helix, between anti-helix and helix, or by an incomplete formation of the lobule.

Be it understood that in this short account only congenital malformations are referred to; all conditions resulting from injuries, extravasated blood, adhesions secondary to inflammatory processes,

FIG. 2.



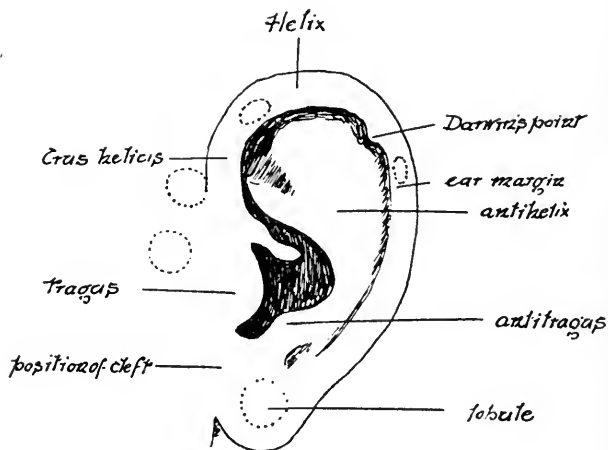
traumatic fissures consequent upon ear-rings, and such tumours as fibromata, keloid and epithelioma are here omitted.

Of all the malformations treated, accessory auricles or pre-auricular appendages form by far the most common variety; but I do not propose in this paper to further consider these interesting anomalies.

Fistulæ of the external ear.—Usually these fistulæ have only a small opening leading into a narrow canal of no great depth, with a blind extremity in the substance of the helix. Very often a small incrustation covers the fistula; when this is removed a drop of sero-purulent fluid is exposed to view. This secretion is under ordinary circumstances less abundant, so that many persons are happily unconscious of its presence.

The presence of sebum in these helical fistulæ is sufficiently explained by the presence of sebaceous glands, which can be seen in an unusual number in ordinary microscopic sections of this

FIG. 3.



○ Position of Dermoid Cysts and Fistulæ.

region. Oftentimes the secretion is retained, and a small tumour which may even attain a relatively considerable size results.

The direction of the canal is usually downward and forward, where a retention cyst may form and even suppurate.

The variety which occurs in the lobule—*coloboma auris congenitum*—is more rare, but at the corresponding site pigmented moles, *nævi*, hairy patches, and even *teratomata* occur.

Some observers incline to look upon many of the helical fistulæ and the pre-auricular appendages as derived from the maxillary process of the mandibular arch, urging that the direction of the fistula and position of the cyst are in linear continuity with the mandibular tubercle.

Those specimens which evidence *macrostoma* with helical fistulæ

appear to show the continuity of the maxillo-mandibular cleft; the theory which considers the fistulæ due to incomplete fusion of two

FIG. 4.



Helical fistula.

FIG. 5.



Nævus of lobule and surroundings.

primary auricular tubercles is simple and explanatory of the majority of cases; further, the frequent presence of a groove running to the fistula in helical fistulæ supports this view.

FIG. 7.

FIG. 6.



Hairy (pigmented) mole of lobule (with coloboma).



Pre-auricular dermoid cyst.

Cysts and tumours around the ear.—The development of the external ear in itself testifies to the multiplicity of sources of

invagination of ectoderm which would occasion dermoid cysts. Yet the pinna, the situation of fistulæ, is not a frequent seat of dermoids

FIG. 8.



Lymphangioma—supra-auricular.
(? relation to angioma or acanthoma).

FIG. 9.



Fibroma of scalp.

and allied tumours; in the peri-auricular regions many such tumours are found, so that the following classification will be useful:

(1) Auricular, (a) pre-auricular.

FIG. 10.



Sarcoma.

FIG. 11.



Post-auricular dermoid.

(2) Peri-auricular, (b) supra-auricular, and (c) post-auricular.

From previous statements the origin and situations of auricular cysts need not further detain us.

Pre-auricular dermoids have at least two sources of origin: (1) Errors of fusion of the anterior auditory tubercles. (2) Errors of fusion of the maxillary and mandibular processes of the first branchial arch.

These cysts seldom grow to a large size, but remaining small are likely to be mistaken for sebaceous cysts, an enlarged parotid lymphatic gland, or a parotid cyst.

If a careful clinical examination reveals an allied congenital error the diagnosis is aided but never completed until the microscope decides the presence or absence of dermal structures in the cyst wall.

Supra-auricular dermoids may lie directly above the ear or in a line extending backwards from the orbit and corresponding to the oblique cleft, so that the anterior cysts are more usually described as dermoid cysts of the outer border of the orbit.

If this view be correct it is more easy to conceive of the many varieties of tumours found in this neighbourhood, *e.g.* dermoids, lymphangiomata, fibromata, acanthomata, teratomata, and sarcomata.

Post-auricular congenital tumours.—The post-auricular series may advantageously be considered as three sets arising from three distinct sources, thus:

Set.	Arising from—
(1) Upper .	Posterior limit of oblique cleft.
(2) Middle .	Otocyst.
(3) Lower .	Posterior ends of second branchial groove.

Small rounded swellings of congenital origin are observed in the post-auricular region, which is devoid of hair and is known as Wilde's area. When closely examined they are slightly movable, having usually some attachment to the temporal bone in the line of the petro-squamosal suture but not attached to the overlying skin; they are usually so tense that fluctuation is indiscernible; these are dermoid cysts of the middle set. A close consideration of the development of the external ear shows us that such cysts or other congenital tumours lie behind the opercular folds, whence the tubercles which comprise the pinna are derived.

These tumours arise in relation with slight defects in the development of the internal ear.

The first indication of the internal ear appears about the fifteenth day as a circular thickening of the ectoderm, just over the dorsal end of the first branchial groove. This auditory pit deepens, sinking into the subjacent mesoderm, eventually becoming divided off from the ectoderm as a completely closed sac—the auditory vesicle or

otocyst; however, a small process from one side of this represents the remains of its connection with the surface and forms the ductus endolymphaticus.

It is, moreover, more than probable that the rarer tumours known as congenital cholesteomata arise in connection with the development of the otic vesicle. The cholesteomata have, from

FIG. 12.

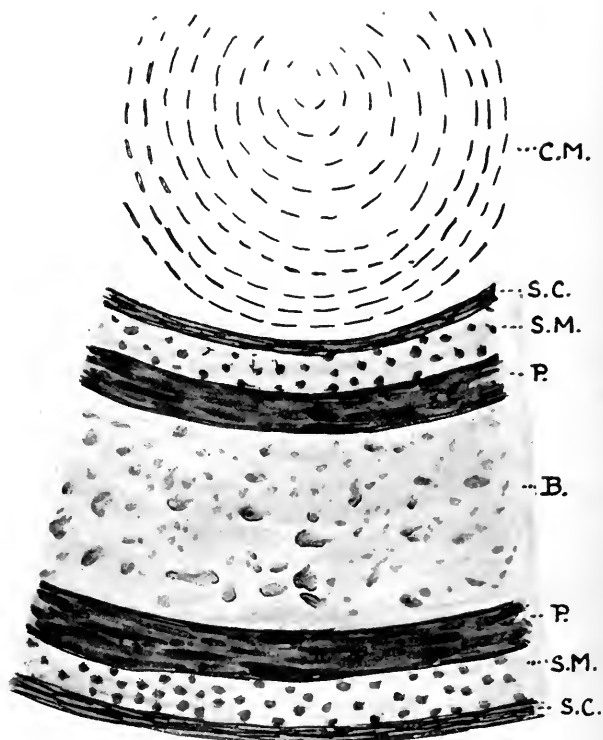


Diagram to illustrate relation of cholesteoma to dermoid. s.c. Stratum corneum. s.m. Stratum Malpighii. P. Periosteum. B. Bone. c.m. Cholesteomatous matter.

within, the same relation to, and effect upon the bone as the dermoids have from without.

The lower set of post-auricular dermoids are formed in connection with the curling over of the operculum of the second branchial groove.

To embrace a clear understanding of embryonic physiology it is imperative to view organs not performing functions, but organs being:

evolved; hence the perverted physiology or the pathology of the embryo is evidenced in irregularities or deformities.

The origin of the supra-auricular dermoids and of the upper set of the post-auricular dermoids which are formed in connection with the oblique cleft and its posterior edges may have some evolutionary relation with the cephalic shield of the armadillo.

A CASE OF LYMPHO-SARCOMA.

By G. F. VINCENT, F.R.C.S.Ed.,
Surgeon to the Cottage Hospital, Woking.

I WAS asked to see a boy, aged 9 years, on Sunday evening, July the 9th, as his abdomen was swollen. I saw him at 9:30 p.m., and was told by his mother that she noticed on the night previous while giving him his bath that his abdomen was enlarged; that he had vomited once or twice, and that the bowels had acted three times that day. She said that two or three weeks before this some friends had remarked to her that he was not looking well and seemed paler and somewhat thinner, but she had not noticed it herself.

On the Sunday night when I saw him his temperature was 97° F. and his pulse 100. The stomach appeared to be distended and the costal arches were pushed forwards. A considerable amount of free fluid could be detected in the abdomen, and percussion did not give rise to any pain.

On Monday, July the 10th, his temperature was 97° F. and pulse 104, and the distension of epigastric and hypogastric regions was more pronounced. He complained of a slight pain occasionally in the right hypochondrium and had some difficulty in micturition. He vomited once and the bowels acted three or four times during the night.

He measured over the epigastrium 26 in., over the umbilicus 23½ in., and from the xyphoid cartilage to the umbilicus 6½ in.

On Tuesday, July the 11th, temperature 97° F., pulse 108. He did not complain of any pain, but lay in bed reading. He was removed to the cottage hospital in the afternoon, and at 8.30 p.m. opened in the mid-line, when about four pints of clear fluid came away. On inserting the finger I felt a large swelling about 3 by 2 in. attached to the anti-mesenteric border of the hepatic flexure, with several swellings the size of a marble dotted over the intestine

above and below this, also a swelling the size of a hen's egg surrounding the gall-bladder. Through the incision I pulled out the growth with a portion of the intestine, but in doing so it broke, for it was very brittle, although its walls appeared to be about $\frac{1}{2}$ in. thick. As the gall-bladder and a large portion of the intestine were involved I decided not to proceed further with the operation. He was also suffering considerably from shock, and vomited about half a teacupful of "coffee grounds." I replaced the swelling, put in a large drainage-tube, and sent him back to bed. He died in thirty-six hours.

The autopsy showed the growths on the intestine and gall-bladder mentioned, also large nodules on the lesser curvature of stomach and round the duodenum.

The specimen was sent to the Clinical Research Association and the report was as follows: "These tumours are infiltrated by identical growths. They are composed of small, round, deeply stained cells in a delicate reticulum with thin-walled vessels. The intestine is infiltrated in all its coats, but the mucous membrane is still recognisable. The general structure is that of a lympho-sarcoma."

Association Française de Pédiatrie.

Held at Paris, July the 29th and 30th, 1910.

M. HUTINEL, *President.*

First Discussion.

The Functions of the Thymus, by M. WEILL (Lyons).—The thymus is a lymphoid organ developed in the glandular system at the embryonic period whose epithelium persists after birth, but in a very rudimentary form (reticulum cells), or as degenerate elements (Hassall's corpuscles). The lymphoid tissue of the thymus is remarkable for its extreme sensitiveness to accidental and pathological influences. The lymphocytes in it are endowed with extreme mobility both as regards their disappearance and reappearance. The elements of epithelial origin which persist, when compared with other glandular elements as regards their structure, do not seem to play any important rôle. The physiological involution of the thymus at the time of puberty indicates that the rôle of this organ is temporary. The thymus is not indispensable to life; in its extra-uterine life it does not seem in any way comparable to glands with an internal secretion, such as the thyroid and suprarenal. There is nothing to show the existence of hyperthymic syndrome. The structure and functions of the thymus as far as is known closely resemble those of the lymphatic glands. Like these, but more actively, it

reacts to infections and intoxications, and is subject to retrogressive involution with the progress of age, while the precocity of this retrogression seems to have a direct relation to its extreme sensitiveness.

The Pathology of the Thymus, by Prof. MARFAN (Paris).—In summarising all known conceptions of the pathology of the thymus, prominence was given by the speaker to the study of hypertrophy of this gland in children, and to the symptoms which lead to its diagnosis and the indications for thymectomy. (1) In infancy the most frequent cause of hypertrophy of the thymus is a lesion to which the name of "simple hyperplasia" may be given. The change is only one of the manifestations of those proliferative reactions which may attack any of the hæmo-lymphatic organs in the course of infections or intoxications, and of which syphilis and tubercle seem to be the most common. This ætiology explains why hyperplasia of the thymus often co-exists with rickets and enlargement of other lymphoid organs (glands, tonsils, spleen). Clinically, hypertrophy of the thymus is sometimes latent, and this is most frequently the case; at other times it causes symptoms of compression. (2) When latent, it can only be recognised by systematic percussion and radioscopy. Percussion gives absolute dulness over the manubrium, having a triangular outline with the base uppermost. This sign is not constant, as the edges of the lungs may cover the hypertrophied thymus. Radioscopy shows an enlargement of the median supra-cardiac shadow touching the two borders of the manubrium. This sign if properly interpreted is of very great value. The hypertrophied thymus may press on the various organs in contact with it either directly or indirectly, but pressure on the trachea and vessels only has been demonstrated. (3) Pressure on the trachea shows itself by dyspnœa, stridor, and recession. It may be chronic and paroxysmal, or occur in attacks with long intervals of tranquil breathing; only one attack may occur, and end fatally. The characteristics of the stridor and dyspnœa due to thymic tracheo-stenosis may best be studied in the chronic form. Chronic thymic stridor makes its appearance in the first weeks, sometimes in the first few days of life. The respiratory sound is heard both with inspiration and expiration, but is louder with the former; it is accompanied by inspiratory recession of slight degree. Thymic stridor is intensified by hyperextending the neck and by the dorsal decubitus in sleep. It does not change the voice, and when the child coughs there is neither any laryngeal nor bitonal character about it (enlarged glands). The stridor does not disappear when a short tube is placed in the larynx, it is hardly modified by a tracheal tube, and it is only occasionally relieved by the introduction of a long tube. Often, but not always, it is accompanied by absolute dulness over the manubrium, and almost invariably co-exists with a marked increase in the thymic shadow by radioscopy. By placing the tip of the index finger in the suprasternal notch an expiratory bulging is sometimes perceived, caused by a kind of hernia of the thymus (Rehn's sign). Jackson was enabled by tracheoscopy to ascertain a flattening of the trachea at the level of the upper strait of the thorax. When the child is quiet and awake the stridor is slight, sometimes scarcely perceptible; but under the influence of crying, anger, hyperextension of the head, or dorsal decubitus during sleep, attacks of dyspnœa supervene, more or less violent, during which the stridor becomes intense and the recession very marked, while signs of respiratory embarrassment are evident. This dyspnœic paroxysm lasts from a few minutes to several hours. Most often it disappears without leaving any after-effects, but may end

fatally. Children who have thymic stridor are subject to bronchitis and pulmonary congestion. These complications favour in a marked degree the occurrence of the paroxysms of dyspnoea and aggravate their effects. The general health of these subjects is variable and depends on many circumstances (feeding, digestive disturbances, etc.). Thymic stridor often co-exists with rickets and polyadenitis. It generally disappears towards the end of the second year, doubtless owing to the diminution in bulk of the thymus and its involution. When this form of chronic thymic stridor is met with, having the foregoing characters, it must be differentiated from other forms of noisy breathing in infants. These are not due to a single cause, and it is a mistake to describe under the head of "congenital stridor of the newborn" all the kinds of noisy breathing which appear at birth or a little later, and to attribute them to the same pathological condition. *Congenital vestibular stridor* is distinguished from thymic stridor by its exclusively inspiratory characters and by examination of the upper orifice of the larynx, which shows malformation of the epiglottis and approximation of the aryteno-epiglottic folds. Stridor due to *tracheo-bronchial compression by tubercular mediastinal glands* is especially expiratory: percussion, auscultation, and radioscopy show its origin. Stridor from *paralysis of the dilators of the glottis* is almost exclusively inspiratory, but in a young child is always caused by enlarged tracheo-bronchial glands, the signs of which should be sought for. The snoring due to *adenoid vegetations* is recognised by its tone, by its becoming less on closing the nostrils, and by examination of the naso-pharynx. (4) Thymic tracheo-stenosis may be *intermittent*, and show itself by attacks of dyspnoea and stridor, having precisely the characters described above, and excited by the same causes (hyper-extension of the head, dorsal decubitus, etc.). In the intervals the breathing is normal or nearly so. Death may occur in any of these attacks, even in the first and only one. These attacks must be distinguished from those of acute laryngitis, retro-pharyngeal abscess, asthma, and spasm of the glottis. (5) The hypertrophied thymus may also compress the *large vessels* at the base of the heart, especially the vena cava and left tracheo-cephalic venous trunk. Compression of veins is rarer than that of the trachea and is usually associated with it. Can the hypertrophied thymus compress nerves? Probably it can, but there is no known fact to confirm it. (6) In subjects who die suddenly or rapidly, or unexpectedly by *syncope*, particularly during *surgical anaesthesia*, it often happens that the autopsy fails to discover any plausible cause of death, but the thymus is noticed to be large, without, however, seeming to exert any pressure on neighbouring organs. This is called "*thymic death*." The speaker showed that many different conditions have been described under this heading. Different theories have been brought forward to explain it, such as the lymphatico-thymic dyscrasia of Paltauf, the hyperthymism of Svehla, and compression of the right lower cardiac nerve, of the pneumogastric or phrenic. None of these things have been proved. (7) When the diagnosis of hypertrophy of the thymus has been established mercurial treatment should always be resorted to; if it fails, a trial should be given to drugs employed in all lymphatic hyperplasias (saline baths, arsenic, iodine, calcium); adrenalin by the mouth, two to four drops daily, may be also tried. In the serious accidents due to compression remedies with more rapid action are indicated. If the symptoms are not too threatening an attempt may be made to reduce the bulk of the thymus by radiotherapy; in the contrary event thymectomy is the treatment for choice. When the urgency and immediate gravity of the dyspnoea and cyanosis do not permit.

of this operation, an attempt may be made to introduce into the larynx and trachea as long a tube as possible, but tracheotomy, and especially the introduction of a short tube, are useless. If the urgent symptoms can be by this means ameliorated, the situation can be made use of to practice thymectomy.

Surgery of the Thymus, by M. VEAU.—The surgery of the thymus deserves an important place in the treatment of a disease against which we have been hitherto powerless. The operative interference of choice is subtotal subcapsular thymectomy; it is a safe operation. In five cases he had operated on, the children were able to leave the hospital in a few days. The results obtained might be grouped under four heads: (1) In the *crises of suffocation* intervention constituted an operative indication of the highest order. (2) In *permanent dyspnoea* without crises of suffocation intervention is less indicated, but when resorted to it produced excellent results. (3) In *spasm of the glottis* intervention is only indicated when there is hypertrophy of the thymus. (4) In cases of *thymic stridor* the effects of operation are less encouraging in the sense that if the respiratory bruit disappears the relief is only temporary. We should only intervene if stridor is accompanied by other symptoms of thymic hypertrophy (crises of suffocation, permanent dyspnoea).

M. D'OELESNITZ: There are four principal clinical varieties of thymic hypertrophy, the *fulminating*, with sudden death, the *latent*, the *silent*, and the *permanent*. Radiotherapy gave good results.

MM. NOBÉCOURT and TIXIER had been able to demonstrate in the healthy child by means of the concentric percussion of Constantin Paul an area of impaired resonance, six or eight centimetres broad, which extends beyond the left border of the sternum and merges into the precordial dullness. This impaired resonance is due to the presence of the thymus or the vascular pedicle.

M. FROELICH: The upper strait of the thorax is extraordinarily narrow in certain young subjects, so that the breathing becomes embarrassed as soon as the thymus is, however slightly, enlarged.

M. HUTINEL: There is a great tendency to confuse spasm of the glottis and thymic attacks. Hypertrophy of the thymus only plays a subsidiary part in spasm of the glottis by aggravating the symptoms, but sometimes to such an extent as to necessitate intervention. He had a case in which the alarming symptoms ceased after a thymectomy.

M. BARBIER agreed with M. Froelich as to the narrowness of the upper thoracic strait. He had seen it reduced to 15 mm. The large vessels in this region were thus equally capable of pressing on the trachea or nerves, and give a radioscopic shadow which is often wrongly attributed to hypertrophy of the thymus.

M. BOISSONNAS described the case of an infant, aged 2 months, seized with intense dyspnoea and inspiratory stridor. The upper respiratory passages were free, the epiglottis normal. On expiration a round mass was distinctly perceived in the supra-sternal region which disappeared within the thorax at each inspiration. There was dullness over the manubrium to the extent of 4 cm. Radioscopy showed a corresponding shadow. The thymus, weighing 20 grm., was extirpated. The trachea was flattened and softened. Tracheotomy two days later on account of the tracheal lesion. Death eighteen days after the operation from broncho-pneumonia.

Second Discussion.

Bacteriology and Epidemiology of Cerebro-spinal Meningitis, by MM. RICHARDIÈRE and LEMAIRE.—Weichselbaum's diplococcus, Gram-negative, resembles in many points the gonococcus, but differs from it entirely in its action on the sugars. It alone is possessed of a marked fermentative action on glucose and maltose. Equally important are the results of the reactions of agglutination, precipitation, reaction of fixation, and the process based on the action of bile and biliary salts. There also seem to exist between the meningococcus, the gonococcus and pseudo-meningococci common characters, characters of grouping and specific characters, which give to Weichselbaum's coccus a well-marked individuality. The authors insist on the idea that germs are carried, thus explaining the facts of epidemics and their apparent irregularity. They also insist on the dangers of the specific rhino-pharyngitis with which the subjects of meningitis and the germ-carriers are equally attacked. From these facts it is advisable to isolate these germ-carriers until their harmlessness is ascertained during an epidemic. As causes which favour the development of epidemics may be quoted low temperatures with humidity and thermometric oscillations, fatigue, overwork, and early life.

Cerebro-spinal Meningitis in Children, its Symptoms and Diagnosis, by MM. ANDRÉ MOUSSOUS and ROCAZ.—The chief symptoms were described, *e.g.* muscular contractures, rigidity of the neck, Kernig's sign, the contra-lateral reflex of Brudzinski, paralysis, sensory troubles, psychic and vaso-motor disturbances. The general symptoms were—fever, digestive disorder, cutaneous and articular manifestations, changes in the urine and blood. The agglutinating power and the opsonic index were important. The clinical forms in children were very various and were relative to the duration of the disease, age of the patient, and absence or predominance of certain symptoms. The authors described various forms, such as acute, sub-acute, fulminating, chronic and relapsing. In the infant they distinguished convulsive, hyperæsthetic, and tetanic forms; there was also posterior basal meningitis; they also discussed ambulatory and abortive forms, more frequently met with in the adult, but also found in children. Complications are met with in the form of vascular and pulmonary lesions, lesions of the nervous centres, nerves, visual and auditory apparatus. Lesions of the nervous centres, eye and ear constitute the most frequent sequelæ of cerebro-spinal meningitis to which children are liable, such as hydrocephalus, blindness, deafness, disturbance of intelligence and motor apparatus. The most important elements for diagnosis are furnished by examination of the cerebro-spinal fluid obtained by lumbar puncture, by the precipito-reaction of Vincent-Bellot, and the fixation reaction of Bordet-Gengou.

The Treatment of Cerebro-spinal Meningitis, by M. NETTER.—Intra-spinal injections of anti-meningococcic serum act as a specific. Under their influence the mortality is markedly lessened, the duration of the disease shortened, and the symptoms modified, while complications and sequelæ are more rare. To obtain the best results sufficiently large doses must be used (30 to 60 c.cm.), and repeated during the first three or four days of treatment. The injections must be continued as long as the cerebro-spinal fluid contains meningococci. They must be repeated should a relapse occur. Cures are much more rapid and frequent when treatment is commenced

early. In doubtful cases it is advisable to inject the serum after the first puncture without waiting for the results of bacteriological examination. This examination, on the other hand, is a guide to future injections. In some cases, happily exceptional, twenty or more injections were necessary to bring about a complete cure. The meningitis of infants is more serious and the efficacy of the serum less appreciable. This may possibly be caused by the want of communication between the arachnoid cavity and the cerebral ventricles. In these cases it may be necessary to practice intra-ventricular injections. One recovery seemed to be due to this intervention. The injection of serum may aggravate pains, increase rigidity and fever, and also cause eruptions. Happily more rare, but at the same time more serious, are disturbances of breathing, orthopnoea and apnoea, which are sometimes fatal. They seem due to poisonous principles which form part naturally of horse-serum; they should not prevent us having recourse to sero-therapy. The use of serum does not forbid the employment of other useful measures, such as hot baths, which relieve pain and rigidity, collargol, which diminishes fever, and salicylic preparations.

M. HUTINEL had observed fatal results from the injection of serum. They occur principally in tuberculous children.

MM. BROCA and DEBRÉ drew attention to certain surgical complications, such as appendicitis, acute otitis, metastatic articular troubles, and abscess of the brain.

M. HALLÉ described a case of mumps which in the early stage resembled cerebro-spinal meningitis.

MM. NETTER and TINEL, from an analysis of 58 cases, were of opinion that the meningeal form of acute poliomyelitis was extremely difficult to diagnose from cerebro-spinal meningitis.

M. MALLET had treated an infant, aged 3 months, by fourteen lumbar punctures, using 60 c.cm. of the serum as subcutaneous injections and 90 c.cm. as intra-spinal injections, without being able to prevent death.

M. LEON TIXIER said that the diagnosis of cerebro-spinal meningitis from meningeal hæmorrhage was impossible in the absence of lumbar puncture, which showed differences in colour and cytology.

MM. VOISIN and PAISSEAU: The signs of cerebro-spinal meningitis in twenty-five cases were specially characterised by vomiting, Kernig's sign, erythema and herpes. Fever was often absent, and so were convulsions. They had observed multiple paralyses and tremors.

VINCENT DICKINSON.

Abstracts from Current Literature.

Medicine.

Noma in typhoid fever (*Med. Record*, 1910, 1, p. 39).—F. P. Kinnicutt records a case in a girl, aged 11 years, of this very rare complication, which occurred on the thirty-fourth day of disease. The temperature on that day was normal for the first time, but she complained of toothache. A decayed tooth was found with an ulcer at the base. The tooth was extracted, but the ulcer spread over the gum, the sublingual tissues, and inner surface of the cheek, which it finally perforated. Death occurred on the

tenth day after the development of the necrotic process. Agglutinins were entirely absent in the tenth dilution, but opsonins were present as shown by the active phagocytosis, and an opsonic index of 1.3 for staphylococcus. Among the numerous organisms present in the ulcer the staphylococcus, streptococcus, and pseudo-diphtheria bacillus predominated. Stock vaccines of combined staphylococcus and streptococcus were given, and the leucocytes rose from 10,000 to 17,000 with marked increase of the polymorphonuclears, but without any influence on the rapid course of the disease (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1907, p. 453).

J. D. ROLLESTON.

Diphtheria in Philadelphia (*'Med. Record,'* 1910, II, p. 65).—**Mary Sallom**.—During the past twelve years 43,997 cases have been reported to the Bureau of Health; 7097 died. The mortality fell from 24.18 per cent. in 1898 to 14.18 per cent. during 1899, 1900, and 1901, and finally to 12 per cent. during 1907, 1908, and 1909. This fall in the mortality is shown to correspond with the increase in the gratuitous supply of antitoxin furnished through the Board of Health.

J. D. ROLLESTON.

Diphtheria simulating a foreign body in the right bronchus (*'Nederland. Tijdschr. von Geneesk.,'* 1910, I, p. 669).—**H. Schols**.—A child, aged 2½ years, was taken ill one evening with symptoms resembling laryngismus stridulus. The dyspnoea ceased before Schols's arrival, but another attack of short duration occurred the next day. On the fourth day of disease the child presented marked stridor and recession. The right side of the chest was motionless during respiration. The throat was clean and the lymph glands were not enlarged. The temperature was normal. The diagnosis of a foreign body in the right bronchus was made, and the child was removed to hospital. On performance of tracheotomy nothing was found, but cultivation of the tracheal mucus showed diphtheria bacilli. Death took place on the day following the operation. The autopsy showed thick membrane in the larynx and bronchi and several small areas of broncho-pneumonia. The symptoms were probably due to obstruction of a bronchus by a piece of membrane. Two days later the brother and sister of the patient were taken ill with definite faucial diphtheria.

J. D. ROLLESTON.

Fatal laryngo-tracheal diphtheria (*'Rev. de Laryngol.,'* 1910, II, p. 82).—**Delobel** was called to see a child, aged 7 years, who had been suffering several days from progressive dyspnoea. The throat being clean, no serum had been given. Delobel at first performed intubation, but the operation produced complete asphyxia necessitating a rapid tracheotomy. A large membranous cast was coughed up through the wound, and complete relief was momentarily obtained, but was followed by sudden asphyxia, which was probably due to escape of part of the cast into the trachea. Delobel thinks that a long pair of Guisez forceps might have led to the extraction of the membrane.

J. D. ROLLESTON.

Loss of passive immunity to diphtheria following serum disease (*'Riforma Medica,'* xxv, 1909, p. 1016).—**C. Francioni** quotes eight cases where this occurred, cases in which, perhaps, owing to an excessive sensitiveness of the organism injected towards the heterogeneous serum, the phenomena of anti-proteic immunity take place so violently as to lead to a diminution or disappearance of the passive immunity conferred by the curative serum

injected, and to place the organism itself in a condition of diminished resistance to the very infection against which the serum was used. This afforded an explanation of relapses running a course which was often more serious and prolonged than the first attack. These phenomena, according to the results of experiments by various authors on animals, are due to the fact that the antitoxin, intimately bound up with the proteids of the serum, participate in their precipitation and coagulation when they occur. In the author's opinion, however, the mechanism is more complicated, since it seems probable that in the reaction subsequent to the formation of the anti-bodies, those means of defence which are spontaneous and not specific also suffer a diminution of potentiality in the organism. Such a diminution of potentiality, defensive and not specific, seems to be confirmed by those clinical observations where serious secondary complications or the aggravation of pre-existing morbid symptoms follow on severe conditions of serum disease. The author thinks that these facts do not constitute any reason against the use of serum as they occur so exceptionally; against one case in which these unfavourable results have occurred must be put hundreds of cases in which serum has led to a rapid cure without any untoward symptoms at all. But on the other hand, these few cases should induce us to regard prophylactic measures as most important in the defence against diphtheria, and it would be a grave mistake if, lulling ourselves with the idea that we possess in anti-diphtheritic serum an infallible remedy against the disease, we should omit all those hygienic measures which prevent its spread. The serum is undoubtedly a precious means in therapy, but it is still more precious in prophylaxis, because used preventively it limits epidemics to their origin, and thus limits the use of it when the epidemic has already spread and attacked many subjects.

VINCENT DICKINSON.

Scarlatina and von Pirquet's reaction (*'Deutsch. med. Wochens.'* 1910, p. 561).—**F. Brandenburg**.—A child, aged 2 years, with signs and symptoms of pulmonary tuberculosis, developed scarlet fever in March. Von Pirquet's reaction was negative then, but was definitely positive two months later. Death from generalised miliary tuberculosis took place in the following September. This case shows that the cuti-reaction may be negative in scarlet fever as well as in measles, in spite of the presence of tuberculosis.

J. D. ROLLESTON.

The liver in scarlet fever (*'C. R. de la Soc. de Biol.'* 1910, LXVIII, p. 232).—**P. Teissier** and **R. Benard** found that involvement of the liver in scarlet fever was most marked in patients in whom this organ had already been affected by some pathological factor, especially alcohol. Apart from such cases, among 3500 scarlet fever cases at the Claude Bernard Hospital from 1905–1908, 278 showed definite evidence of hepatic disturbance. The principal symptoms were increase in size in the liver and tenderness on palpation or percussion. In some both lobes were affected, in others the right lobe was more enlarged than the left. The enlargement as a rule was transient, and disappeared with the subsidence of the acute stage, very rarely re-appearing when later complications developed. The degree of icterus varied from a slight cholæmic tint to well-marked jaundice. The latter was exceptional. In almost every case the colour of the urine and faeces was normal. There was only a slight increase of bile-pigments in the blood. In the urine urobilin was more frequently met with than bile-pigment.

J. D. ROLLESTON.

Anomalous scarlet fever (*Journ. of Amer. Med. Assoc.*, July 16, 1910).—**Corlett** and **Cole** report thirty-two cases of scarlet fever, occurring in three epidemics, which presented anomalous features. There were three cases in which the erythema was very slight; in one it was absent, and in another it was confined to small areas and was very evanescent. Two of the patients with slight erythema had it confined to the neck, shoulders, and arms. One had a secondary erythema. The temperature varied from normal to 105° F. Four patients never had a temperature above 99° and two never above 100°. The remainder varied between 100° and 105°, but the majority were between 100° and 102°. In six cases the desquamation was typical, and in one it was faint, but general. One patient showed no desquamation except around the neck and another none except on the right hip. In two it was confined to the face, arms, and shoulders, and three showed no desquamation at all. In only two cases was there absence of all signs of nephritis. All the others showed a faint trace of albumin; in one case there were casts. Two of the three cases showing no desquamation had a faint trace of albumin for a few days. Practically every case had a severe angina, seven of them presenting more or less of a membrane in the throat. The only changes in the blood noted were a marked increase in the number of leucocytes in a few cases, and in a number of instances the differential count showed a high percentage of eosinophiles.

T. R. WHIPHAM.

Rubella (*Ergebnisse der inn. Med. und Kinderheilk.*, 1910, v, p. 280).—**B. Schick** reviews the literature, and records the results of his own experience in an important monograph. In an epidemic observed by him the incubation period varied from fifteen to twenty-three days. Dissemination took place by direct infection. He did not see any definite cases of indirect infection. The infectivity of the disease ceases with the disappearance of the eruption, so that the patient need be isolated for a week only. Disinfection of clothing and of the room is unnecessary. Tuberculin tests may help in the diagnosis of rubella from measles, but only in tuberculous children. A positive reaction in the eruptive stage is against measles. On the other hand, a negative reaction is no proof of measles, since in the absence of tuberculosis the reaction is negative in rubella also.

J. D. ROLLESTON.

Hæmorrhagic smallpox (*Monatschr. f. prakt. Derm.*, 1910, Bd. LI, p. 274).—**Feinberg**.—A boy, aged 13 years, who had been unsuccessfully vaccinated in his first and tenth years, fell ill with hæmorrhagic smallpox. Death occurred on the fifth day.

J. D. ROLLESTON.

A fatal case of varicella (*Zentralbl. f. Kinderheilk.*, 1910, p. 243).—**R. Morichau-Beauchant**.—A healthy child, aged 4 months, bottle-fed, developed varicella. At 2 a.m. the next morning it vomited and had a convulsion. Coma supervened, and death took place at 9 a.m.

J. D. ROLLESTON.

Hæmorrhagic varicella (*Thèses de Paris*, 1909-1910, No. 361).—**Mlle. Celnik** distinguishes two forms: (1) Varicella with hæmorrhages confined to the eruption. This runs a mild course, and symptoms are slight or absent. (2) Varicella complicated by (a) ecchymoses, (b) multiple hæmorrhages. In this form the constitutional disturbance is severe, and the

prognosis is grave. The thesis contains the histories of thirteen cases, including two hitherto unpublished, with four deaths. In one of these a hæmorrhagic vesicular eruption was associated with purpura, and in the other three cases there were hæmorrhages from the nose, conjunctiva, gums, and intestine. A history of hæmophilia was obtained in only one case which recovered. The first of the four fatal cases was tuberculous, the second was suffering from enteritis, in the third case the father was tuberculous and the mother diabetic, and in the fourth case the special virulence of the pathogenic agent was incriminated.

J. D. ROLLESTON.

Epigastric pain as a complication of mumps (*'Brit. Med. Journ.,'* 11, 1910, p. 231).—**H. P. Godfrey**.—During an epidemic of mumps six out of twelve patients suffered from epigastric pain and vomiting. These symptoms usually occurred after subsidence of the parotid swelling, sometimes three or four days after. The vomiting usually lasted only two days, but in one case it persisted for five or six. Drug treatment was useless, but relief was obtained by the application of a mustard plaster to the epigastrium. The symptoms were probably due to metastatic affection of the pancreas (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1908, p. 267).

J. D. ROLLESTON.

Prognosis of whooping-cough (*'Thèses de Paris,'* 1909-10, No. 404).—**F. Léger**.—Among 171 cases of whooping-cough treated at a Paris dispensary between January 1, 1904, and May 1, 1910, the mortality was 5·2 per cent. The percentage mortality during the first two years of life was 8·4, from two to five years 1·4, and above five years *nil*. These figures compare favourably with the statistics of the Hôpital Bretonneau, where the mortality recently was 20·9 per cent. (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1907, p. 454). An even lower death-rate was obtained by Variot at the Belleville dispensary (1·0 per cent.) and by Comby at La Villette dispensary (1·5 per cent.). Death was almost always due to broncho-pneumonia, which occurred in one sixth of the cases. The association of measles with whooping-cough, not infrequent in hospitals, was noticed only once in fourteen years out of a total of 474 cases of whooping-cough attending at the dispensary. Tuberculosis occurred in the course of, or as a sequel to, whooping-cough in 8·2 per cent. Congenital syphilis did not appear to have any influence on the duration or gravity of whooping-cough.

J. D. ROLLESTON.

Difficulties in the diagnosis of yellow fever among children (*'Brazil Medico,'* February 22, 1910).—**Moncorvo Filho** says the diseases that have to be differentiated are influenza, malaria, exanthemata, typhoid fever, and the acute intestinal affections. The symptoms of headache, backache, myalgia, etc., cannot be ascertained in a child, while such symptoms as vomiting, fever, delirium, and icterus are common to all these diseases. Diagnosis has to rest upon the suddenness of the rapid development of such symptoms as black vomit, albuminuria, and hæmorrhages. Malaria is often very abnormal in children, whilst the presence of Laveran's parasite does not always exclude yellow fever, which may exist in children who have had malaria. Diphtheria caused much difficulty in a child aged 3 years, whose two brothers were suffering from yellow fever. The initial symptoms were severe, and it was not till on the fourth day, when symptoms pointed to the throat, that the correct diagnosis was made. Plague caused much difficulty

in two or three cases, as did also a case of *icterus gravis* in a child aged 5 years.
M. D. EDER.

Persistence of meningococci in cerebro-spinal meningitis (*Centralbl. f. Innere Med.*, 1910, p. 978).—Beck records a case in a girl, aged $1\frac{1}{2}$ years, in whose cerebro-spinal fluid meningococci were found at the necropsy after an illness of thirteen weeks.
J. D. ROLLESTON.

Obesity in children (*Berlin. klin. Woch.*, p. 1414, 1910).—Stern describes two distinct forms of the disease; he considers that form which is characterised by the formation of fat at puberty an anomaly of metabolism, and the other form an obesity peculiar to young persons which usually disappears at the end of growth; he finds this specific form more often in girls, the deposit of fat being greatest on the breasts and the extremities; the metabolic form occurs oftener in boys, and affects chiefly the abdomen, the hips, and the buttocks; yet either form may occur in both sexes. The obesity of altered metabolism in children and young adults can occasionally result from congenital or acquired constitutional anomalies, giving rise to the impression that there is a predisposition to obesity, but in the greater number of cases there is no transmitted tendency or adipose diathesis; the obesity must be attributed to the circumstances that the members of the family lead the same life, that is, are overfed, or indolent, or both. Overfeeding has no part in specific obesity; on the contrary there is often loss of appetite and capricious desire for food. While the obesity of altered metabolism may last for a time or throughout life, the obesity of youth is a specific state, limited to this period, though it may recur at the time of the climacteric; as the cause is not found in overfeeding, there must be diminished oxidation. The following considerations suggest that a disturbed function of the thyroid or parathyroid, or both, is probable: (1) the reduction in size of the thymus and the pronounced development of the thyroid at puberty; (2) the greater frequency of affections of the thyroid in girls; (3) the increased oxidation which results from administration of thyroid substance or thyroid gland preparations, as is established by physiological and clinical experience. Either form of obesity requires treatment when it is so considerable that the organs of the body are hindered in function, or when some complication occurs. In uncomplicated cases with less than 30 per cent. excess in weight it is better to omit treatment, as it may be followed by more or less pronounced interference with development. When, however, the obesity of altered metabolism has made its appearance in youth in other members of the family, or when it is recognised soon after its commencement, its increase can be prevented by proper dietetic treatment or its essential progress materially reduced. It must be remembered that the caloric value of food must be somewhat higher in children, because (1) a considerable reduction of food in growing children cannot usually be continued without harm; (2) obesity in the young, as a rule, allows of physical exercise; (3) the percentage of excess of weight is in most cases less than in the similar obesity in adults. With respect to the treatment of specific obesity, dietetic treatment is not merely useless, but detrimental to the young organism. Therapeutics in such cases must be directed against accompanying complications rather than removal of the obesity itself. When the condition is excessive it can be treated by thyroid preparations, especially when symptoms of myxœdema show themselves. In such cases the following tablets have given the best results: Cacodylate of sodium $\frac{1}{4}$ gr., adonidin $\frac{1}{10}$ gr.,

dried powder of thyroid gland 2 gr., three times a day. The arsenic and adonidin are added to check any injurious secondary effect of thyroid medication.

J. E. BULLOCK.

Obesity in children (*Le Monde Méd.*, 1910, p. 145).—**Prof. Hutinel**.—Obesity must be regarded as closely associated with disturbance of nutrition, and the obese as subjects whose disturbed health calls for treatment. It is not rare in children. Most commonly it is at seven or eight that the child begins to grow fat, and the obesity attains its maximum at puberty. According to Bouchard, obesity is due to slowing down of metabolism under the influence of an organic lesion, such as pancreatic disease, and defective oxidation has also been invoked as a cause. Changes in the genital organs are also important in this respect, so that Carnot described an obesity of puberty, a nuptial obesity, and a climacteric obesity. Lannois has described recently great obesity following ovariectomy, and has also remarked changes in the pituitary body. The thyroid also exerts a pronounced influence, for slight hypothyroidia is accompanied by more or less adiposis. Froelich and others have called attention to the presence of changes in the pituitary body in obese subjects, and in some instances acromegaly is coincident. Even the pineal gland seems to have some influence on obesity. External agents may be causative, such as, repeated injections of anti-diphtheritic serum, tuberculosis, the abuse of alcohol, and the action of strychnine, phosphorus, arsenic, and lead. Out of ten obese children, eight at least are born of diabetic parents. Besides diet, there is room for opo-therapeutic treatment, employing thyroid, and possibly also pituitary extract and extract of the genital glands, etc., avoiding adrenalin.

FREDERICK LANGMEAD.

Obesity in children (*Gaz. des Hôp.*, 1910, p. 1431).—**L. Babonneix** and **G. Paiseau** record six cases in children whose ages ranged from nine to fourteen years to illustrate the condition named by Launois *syndrome hypophysaire adiposo-génital*, the cardinal symptoms of which are generalised adiposity, genital dystrophy, and symptoms of a pituitary tumour. In five of the cases the X rays showed enlargement of the sella turcica. In all but two the intelligence was below normal.

J. D. ROLLESTON.

Fat and epilepsy (*Wien. klin. Rundschau*, January 23, 1910).—**Neurath** showed a "Fettkind," aged 11 years, suffering from epilepsy. At two the fits were eclamptic, and since two and a half years typically epileptic. Weight 45 kilos. (99 lb.), height 135 cm. (63½ in.). The fatty development was certainly due to some disturbance of one of the glands with internal secretion. Thyroidin was being used.

M. D. EDER.

Congenital adiposity (*Allg. Wien. Med. Zeit.*, August 16, 1910).—**Neurath** described a boy, aged 6 years, 118 cm. in length, and weighing 31.2 kilos. Intellect was normal. The lower part of the body was covered with cushions of fat; the breasts were huge. There was slight genu valgum and secondary flat-foot. The testicles were curiously small. There were no symptoms pointing to a tumour of the pineal body or hypophysis. He considered that there was some failure in the development of the cells which control the internal secretion of the testicle.

M. D. EDER.

An auscultatory phenomenon met in infants and children (*Journ. of Amer. Med. Assoc.*, May 21, 1910).—**Lowenburg** directs attention to the fact that normally the inspiratory murmur over the left side of

the chest, especially at the back, in infants and children is decidedly louder and harsher than over the right side; or reversely, the inspiratory murmur over the right side is weaker and less harsh than over the left. The difference may possibly be due to the anatomical differences in the two lungs. The sign has an important bearing in the diagnosis of pulmonary conditions; thus, absence of the sign on the left side usually means the presence of fluid in the left pleura. At the same time the diagnosis of fluid on the right side is rendered more difficult by reason of this sign and the same is the case with the diagnosis of consolidation on the left. Unless this sign is taken into consideration, a diagnosis of pneumonia on the left is apt to be made when other conditions are the cause of fever. Consolidation should be suspected on the right side when the inspiratory murmur is equal in harshness and intensity to that which is normal for the left. An equality of the breath-sounds on the two sides, *i.e.* those on the left being weaker than normal, usually indicates fluid in the left pleura.

T. R. WHIPHAM.

Bronchial asthma in children (*Zentralbl. f. Kinderheilk.*, 1910, p. 339).—**G. Neumann** records eight cases in children of both sexes whose ages ranged from five to twelve years. The family history was negative; adenoids were present in some but not in all, and none showed any thoracic deformity. On the other hand all the cases showed more or less evidence of the exudative diathesis (*v. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1908, p. 219). The symptoms were the same as in the adult, but the course appeared to be more favourable, for in observations extending over two or three years spontaneous remissions were observed, which suggested the possibility of permanent recovery. In addition to the drugs usually given in asthma the diet suitable for the exudative diathesis was ordered, but did not prove remarkably successful.

J. D. ROLLESTON.

Pneumothorax (*Arch. of Pediat.*, xxvii, 1910, p. 179).—**F. Huber** and **I. S. Hirsch** think that pneumothorax is not a rare affection in children. In this important contribution, in which the whole subject of pneumothorax is carefully discussed, special attention is drawn to the value of Röntgen ray examination. In the first place the X rays show the degree of pneumothorax. When the air occupies every part of the pleural cavity the whole side of the chest is brilliantly illuminated, while if the air is localised, only the circumscribed area will present this appearance. The illuminated area contrasts with the mobile shadow against the spinal column which represents the more or less collapsed lung. The only appearance which may simulate a localised pneumothorax is a cavity in the lung, but in the latter condition the contrast between normal and abnormal tissue is not so marked, and the lighter area indicating the lung cavity is surrounded by a dense tissue corresponding to the cavity wall. The X rays also indicate the condition of the lung, its position and mobility, the condition of the pleura, the position and movements of the diaphragm, the position of the heart, and the condition of the chest-wall, in which fractures may be present.

J. D. ROLLESTON.

Generalised emphysema of pulmonary origin in non-tuberculous children (*L'Echo Méd. du Nord*, July, 1910).—**Deléarde** and **Paquet** record the case of a girl, aged 6 years, who was admitted into hospital suffering from diphtheria, which cleared up under treatment by antitoxin. Ten days later quite suddenly cough commenced, with pain in the first inter-

costal space on the right side during coughing. The temperature rose and signs of bronchitis appeared in both lungs. Subcutaneous emphysema was found beneath the right clavicle and over the upper part of the thorax behind; this rapidly extended; dyspnoea increased. Five days later the emphysema had spread all over the trunk and down the arm. The child became more dyspnoeic, cyanosed, and the temperature subnormal. There was retraction of the head and rigidity of the flexed limbs. The next day the child died. No autopsy was allowed. The authors consider the emphysema was due to the rupture of emphysematous alveoli into the lung tissue and the extension of the air along the connective tissue to the trachea. It is curious that this type is most common in children under the age of seven years; this is probably due to the frequency of acute respiratory maladies at this age. The condition is not always fatal, thirty-nine cases out of eighty-five collected having recovered. The indications for treatment are—first, to lessen the increased intra-pulmonary tension by treating the cough; and second, to keep up the strength of the heart by stimulants such as injections of camphorated oil, strychnine etc.

J. PORTER PARKINSON.

Some abnormal pneumonias (*Wien. klin. Rundschau*, January 23, 1910).—**Escherich** demonstrated some unusual cases in children. (1) A child was taken suddenly ill with pneumonia. After the termination of the short illness the temperature during thirty-eight days fluctuated between 35.2° – 40.8° C. There was nothing in the lungs, and in the fever-free intervals the child was quite well; the fever ended by crisis. Anti-streptococcic serum and hydrotherapy had no effect; injections of electrargol increased the fever-free intervals. (2) At the termination of a pneumonia the temperature rose and dulness was found in right axilla with dry pleuritic friction. On the right side, besides the heart shadow a shadow was found with dulness over it; puncture gave thick pus. Two ribs were resected; the pleura was normal; the lung was incised and an interlobular empyema cleared out. (3) A child, aged $2\frac{1}{2}$ years, had an attack. On the fifteenth day pneumonic crepitus was still heard; there was marked asthenia with somnolence, feeble heart, apathy, and aphonia, with fibrinous exudation in the larynx. When the pneumonic signs had ceased the somnolence and apathy remained with spasmodic movements which followed, slowly succeeded by ataxy. There was a severe toxic affection of the brain.

M. D. EDER.

Pneumonias of one, two, and three days' duration in children (*Med. Record*, I, 1910, p. 701).—**Le Grand Kerr**, in discussing the occurrence of short attacks of pneumonia in children, takes the following points as diagnostic of the nature of the illness: (1) A sudden onset, with immediate and sustained high temperature, and a dry, hot skin; (2) early prostration to the extent that the child will give up and show visible signs of his illness; (3) markedly increased respirations, with a decided disturbance between pulse and respirations; (4) the exclusion of all other possible causes for the symptoms. As corroborative evidence he instances some additional points: (1) Definite physical signs in the chest; (2) initial vomiting; (3) chill or something which approximates it; (4) primary paleness of the face, with subsequent unilateral flushing. On this basis the author describes cases in which the febrile periods lasted twenty-four, forty-eight, and seventy-two hours.

REGINALD MILLER.

Protracted pyrexia in pneumonia in children (*Clin. Journ.*, September 14, 1910, p. 362).—**Reginald Miller**.—In children with pneumonia difficulties may arise owing to the protracted course of the case, more particularly with regard to the exclusion of tuberculosis. As little has been written on such protracted cases, taken collectively, the cases of pneumonia which occurred in the Paddington Green Children's Hospital in five years were collected and analysed. Two hundred and seventeen cases were found in which the length of the febrile period could be stated with accuracy. Such cases as complicated the exanthems were excluded. In fifty-five of these (25·3 per cent.) the fever showed no definite decline by the end of the tenth day, and they were classified as "protracted." Such a high proportion was probably due to the fact that the longer the attack, the more likely is the child to be sent to hospital. The proportions of the protracted cases in primary and secondary (post-bronchitic) pneumonias were 26 and 24 per cent. respectively. The death-rate in unprotracted cases was 9·87 per cent., in protracted, 30·9 per cent. The protracted cases could be divided into five clinical groups: (1) Protracted simple non-spreading pneumonia. In this group the death-rate was four times as great as in the unprotracted cases. (2) Protracted spreading pneumonia, in which one, two, or three fresh areas of pneumonia developed, sometimes with delayed physical signs. The death-rate here was about three times as great as in unprotracted cases. (3) Protracted pyrexia associated with imperfect resolution. In some of these the physical signs suggested a layer of pyo-lymph on the pleura from which toxic absorption took place, accompanied by a swinging temperature. (4) Bacterial complications other than pneumonic. Although such conditions as empyema, pyo-pericardium, otitis media, peritonitis and others were here included, only eight cases out of the fifty-five fell into this group, showing that death in such conditions usually occurs before the tenth day, or that symptoms of these complications do not arise until the pneumonic temperature has subsided. (5) Toxæmic complications, such as the enteritis occurring in the secondary pneumonias of infants.

AUTHOR'S ABSTRACT.

Tubercular vomica in an infant, aged 3 months (*Lyon Méd.*, August, 1910, No. 35, p. 317).—**MM. Collet and Delachanel** showed specimens from the case of an infant, aged 3 months, who was admitted into hospital for an acute pulmonary condition characterised by intense dyspnoea, paroxysms of cough, vomiting, and fever. He had been brought up on the breast and sterilised milk. There was a distinct history of paternal tuberculosis. Skin reaction to tuberculin was positive, spleen enlarged, progressive emaciation. Death took place from meningitis. The autopsy revealed the existence of a pulmonary cavity occupying the whole of the right upper lobe, and a smaller one at the posterior aspect of the lower lobe of the same side. The upper portion was caseous. The bronchial glands on the right side were caseous, but not on the left. The left lung had only miliary tubercles. There was tuberculous meningitis, and a few miliary tubercles in the liver, spleen, kidneys, and peritoneum. No intestinal ulceration; the mesenteric glands were not caseous.

VINCENT DICKINSON.

Lympho-sarcoma of the anterior mediastinum (*Wien. klin. Rundschau*, February 20, 1910).—**Monti** demonstrated a girl, aged 14 years. The skin of the thorax was pierced by dilated veins; the left side was vaulted. There was dulness on the left front, which below merged into the heart

dulness and extended to the axilla and the angle of the scapula. Over the dulness there was suppressed breathing with a few rhonchi. There was painful cough, with much sputum. X rays showed a shadow over the left lung, most intense in the upper half.

M. D. EDER.

Meningism complicating nasal and buccal diphtheria without false membranes; cure after injection of antitoxic serum (*Gaz. Hebdom. des Sci. Med. de Bord.*, 1910, p. 207).—**Bitot and Petges.**—In 1892 Babinski described symptoms resembling tetanus due to the diphtheria bacillus, and Moussous has also described other cases attended by chronic convulsions, trismus, generalised convulsions of a tetanic character, etc. The present case was in a coachman, aged 43 years, who was seized with violent headache on the evening of March 15. There was neither dysphagia, cough, coryza, nor fever. The headache persisted for four or five days, to reappear on March 23, accompanied by pain and stiffness of the neck and shivering; photophobia was present. On March 27 the following features were noted: Severe headache, great stiffness and pain in the neck. Stiffness of the whole spinal column. Slight Kernig's sign; photophobia. There were no paralyses or other contractures. Throat normal; no enlargement of cervical or other glands. Cough, blood-stained expectoration containing numerous pneumococci. Some signs of consolidation of bases of lungs. Temperature normal. He remained in this state for three days, when lumbar puncture was done. The fluid was under increased tension, limpid, and the cellular elements were normal. Cultures from the buccal and nasal mucus contained diphtheria bacilli with staphylococci and streptococci. On April 1, 20 c.c. of Roux's serum was injected, followed by rapid improvement of all the symptoms. This case shows the value of examining the mucus from the nose, pharynx, etc., in obscure cases attended by nervous symptoms.

J. PORTER PARKINSON.

Paratyphoid meningitis (*La Prensa Medica*, 1910, p. 52).—**C. Inclán.**—A Cuban boy, aged 4 years, at the end of the first fortnight of a disease resembling typhoid, in which Widal's reaction was negative, developed all the signs of meningitis. Lumbar puncture gave issue to a slightly turbid fluid under hypertension containing abundant polymorphonuclears. Cultures of the fluid yielded an organism closely resembling Schottmüller's paratyphoid B bacillus, which was agglutinated by the patient's serum in dilutions of 1 in 40, 1 in 50, and 1 in 100. Improvement followed the operation, and after two more punctures the meningeal symptoms completely disappeared. Some days later, however, the temperature rose again to 104° F., and the meningeal symptoms returned in an aggravated form. The cerebro-spinal fluid was now found to be purulent, and to contain numerous polymorphs and organisms resembling those found at the first puncture. Death took place on the seventy-fourth day of disease. No autopsy. No other instances of meningitis complicating paratyphoid have been recorded.

J. D. ROLLESTON.

Infantile quadriplegia with pneumococcal infection of meninges; absence of leucocytic reaction (*Ann. de Méd. et Chir. Inf.*, 1909, p. 109).—**MM. E. Gaujoux and F. Maillet** report the case of a child, aged 10 years, who was seized with vomiting, fever, convulsions, and slight cough; paralysis of the limbs occurred next day, and the case seemed one of acute infantile paralysis. Lumbar puncture drew off a limpid fluid under con-

siderable tension. There was no leucocytic reaction (neither mono- nor poly-), but a large number of pneumococci, so that the preparation had the appearance of a pure culture of this microbe. The authors discuss the question whether the symptoms were due to a pathological process, at first extensively involving the meninges and not localised in the anterior horns of the grey matter. They draw attention to the necessity of making microscopic examination of the last drops of the tube of centrifugalised fluid. Chemical examination by M. Mestrezat revealed a notable quantity of albumin (0.40). The remainder of the formula was normal.

VINCENT DICKINSON.

Meningitis complicating pneumonia (*Arch. of Pediat.*, 1910, xxvii, p. 355).—**A. Hymanson** records three fatal cases in children, aged 11 months, 18 months, and 2½ years respectively. The cerebro-spinal fluid was turbid or purulent, and showed the pneumococcus in two cases and the pneumo-bacillus in the third. A review of the literature is appended.

J. D. ROLLESTON.

Acute meningitis in a congenital syphilitic; recovery (*La Clin. Infant.*, June, 1910, No. 11, p. 330).—**J. Billet** reports the case of a boy, aged 11 years, who, after a mild attack of measles, was seized with acute cerebral symptoms. Lumbar puncture gave a clear liquid, and was followed by improvement for about twelve hours. As the father had suffered from a gumma four years previously, mercurial inunctions were ordered and iodide of potash by mouth. The symptoms subsided slowly. A second lumbar puncture was performed; the liquid was sterile and without any deposit after prolonged centrifugation. Wassermann's reaction was positive. Clinically the case resembled one of tubercular meningitis; on the other hand, there was the absence of cellular reaction in the cerebro-spinal fluid.

VINCENT DICKINSON.

Blood-pressure in meningitis (*Ann. de Méd. et Chir. inf.*, 1910, p. 196).—**J. Parisot**.—With the exception of tuberculous meningitis, in which the blood-pressure, as is the rule in tuberculosis, remains at or below the normal, the blood-pressure in meningitis shows a well-marked rise followed by return to the normal in cases which recover, and by increasing hypotension in fatal cases. Parisot has found clinically and experimentally that rise in the pressure of the cerebro-spinal fluid entails arterial hypertension, which sinks or disappears when the cerebro-spinal tension falls and becomes normal. He therefore recommends lumbar puncture as a therapeutical measure in meningitis whenever there is a marked rise of blood-pressure accompanied by signs of cerebro-spinal hypertension.

J. D. ROLLESTON.

A case of juvenile general paralysis (*Med. Record*, II, 1910, p. 404).—**James V. May** gives a full account of a case which was under constant observation for the last sixteen months of life. The patient, a boy, aged 16 years, with a neuropathic family history, was unusually intelligent up to the age of fourteen years. Following a blow on the head at this age he became mentally dull, and developed indistinctness of speech and unsteadiness of gait. Athetoid movements of the hands formed an interesting and persistent symptom. The patient showed Hutchinsonian teeth, and in the eyes patches of old choroiditis. His physical signs suggested the tabetic form of general paralysis. The cerebro-spinal fluid did not show any lymphocytosis at an early date, although such was present post mortem. The disease ran

a course of slightly over two years, and at the end rigidity and contractures developed. Death occurred from pneumonia. The findings at the autopsy confirmed the clinical diagnosis.

REGINALD MILLER.

Cerebral softening in acquired heart disease in children (*Thèses de Paris*, 1909-10, No. 108).—**R. Baussay** has collected 34 cases in children whose ages ranged from $2\frac{1}{2}$ to 16 years; 18 were boys and 16 girls. The softening was due to embolism following endocarditis, which was secondary in 10 cases to rheumatism, in 4 to chorea, in 3 to diphtheria, in 2 to scarlet fever, in 1 to typhoid, and in 1 to erythema nodosum. Twenty-eight died, on twenty-five of whom a necropsy was held. The left Sylvian artery was the vessel most frequently involved.

J. D. ROLLESTON.

Post-scarlatinal hemiplegia (*Neurol. Centralblatt*, 1910, p. 763).—**A. de la Chapelle**.—A boy, aged 7 years, suddenly developed left hemiplegia in the sixth week of an attack of scarlet fever complicated by nephritis and pneumonia. Death took place thirteen days later. The autopsy showed an embolus in the right Sylvian artery.

J. D. ROLLESTON.

Convulsions in whooping-cough (*Med. Klin.*, June 5, 1910).—**Ibrahim** found that a cerebral tumour was the cause of convulsions in one case of whooping-cough, and that in two others the use of packs to induce sweating aggravated the condition. Such measures, therefore, should not be used in such cases. In all cases of whooping-cough with convulsions the diet should be regulated by excluding cow's milk, and giving phosphorus in cod-liver oil, and lumbar puncture should be performed in severe cases. Eckert has recently reported four cases in which lumbar puncture apparently conducted to recovery.

T. R. WHIPHAM.

Ætiology of tetany (*Monatschr. f. Kinderheilk.*, April, 1910).—**Quest** maintains that a lack of lime is the chief factor in the ætiology of tetany, and that this may be the result of various causes. It is, however, principally due to an unsuitable diet, an excess or imperfect assimilation of the fat in milk causing the fat to combine with the lime, which is thus eliminated, independently of the amount ingested. An exclusive carbohydrate diet, on the other hand, may fail to supply an adequate proportion in the food. The beneficial effect of phosphorus and cod-liver oil is due to its favouring the retention of lime-salts rather than to any anti-spasmodic action. The injection of lime-salts may possibly be useful in cases showing a chronic tendency to tetany.

T. R. WHIPHAM.

Lime metabolism in tetany (*Monatschr. f. Kinderheilk.*, April, 1910).—**Schabad** reports his researches on the lime metabolism during and between the periods of marked tetany, and confirms the opinion that phosphorus and cod-liver oil are beneficial both on the spasm and in rickets, both improving together when they are associated.

T. R. WHIPHAM.

Amyotonia congenita (*Journ. of Amer. Med. Assoc.*, July 30, 1910).—**Skoog** reports a case of this disease in a girl, aged 22 months, from whom a small piece of gastrocnemius muscle was removed under local anæsthesia for microscopical examination. The part immediately beneath the muscle-sheath showed an absence of muscle-bundles, all being replaced by fatty tissue. A deeper section contained some pale muscular tissue and much fat. There was great nuclear proliferation, the nuclei of the sarcolemma being

four or five times more numerous than normal. The blood-vessels, including the capillaries, had greatly thickened walls, the adventitia showing the greatest amount of increase, while the intima was not involved.

T. R. WHIPHAM.

Von Graefe's sign in myotonia congenita (*'Amer. Journ. of the Med. Sciences,' July, 1910*).—**Sedgwick** records the history of a family in which von Graefe's sign was present in five generations. Of the twenty-nine members recorded thirteen were affected with myotonia and sixteen were free. All of those affected showed von Graefe's sign to a greater or less degree; seven were males and six females. In the first generation the paternal grandmother, in the second the father and father's brother were affected. In the third generation one brother and one sister were affected, while a brother and a sister were free. The myotonic brother transmitted the disease by two wives to four out of five children, while the unaffected brother and sister did not transmit it.

T. R. WHIPHAM.

Facial hemiatrophy in a child (*'Med. Record,' 1910, 11, p. 39, Practit. Soc. of New York*).—**M. Allan Starr** showed photographs of a child, aged 8 years, in whom the disease began at six after whooping-cough. The atrophy involved the whole right side of the face from the supra-orbital ridge to the lower border of the inferior maxilla. The disease is not uncommon in young adults, but no previous cases had occurred at so early an age.

J. D. ROLLESTON.

A case of salaam convulsions (*'Med. Record,' 1, 1910, p. 769*).—**S. A. Agatson** describes a very typical case of this disorder. The patient, the male child of first cousins, first showed symptoms at the age of fourteen months. The attacks occurred eight to ten times a day, usually after sleep. Each attack consisted of twenty or thirty spasms lasting about twenty seconds and occurring at quarter- or half-minute intervals. In them there was momentary loss of consciousness. The head was bowed suddenly and without premonition, until the chin touched the sternum. Simultaneously the trunk was inclined to an angle of about 60°. The right arm was raised to the level of the shoulder with the palm directed downwards and inwards. At the age of four years the boy had been under observation for eighteen months without improvement.

REGINALD MILLER.

Ophthalmology.

Some eye troubles of early life (*'Med. Record,' January 15, 1910, p. 101*).—**John Waite Avery** briefly discusses the refractive and muscular disturbances of the eye from infancy to youth, and he points out the significance of various symptoms. These conditions may give no special trouble, or even become apparent, until the strain on accommodation begins when the child starts school. Headaches are a common symptom of eye-strain, and disorders of the lids and conjunctiva are not unusual. Remote reflex disturbances, such as nervous, gastric, and intestinal troubles, may have the same origin. The fact of error of refraction, and its amount, may not appear without a cycloplegic. All such refractive and muscular imperfections should receive prompt attention. The author believes that squint should not be operated on before a long trial with glasses has been made. It is reasonable to suppose that the time to begin this treatment (with glasses) is while the

squint is still intermittent or "periodic," and before the sight has been damaged. In carrying out refraction work in children, atropine sulphate is the most reliable cycloplegic to employ.

J. ALLAN.

Cryptophthalmia (*Journ. of Amer. Med. Assoc.*, July 30, 1910).—**Coover** reports two cases of cryptophthalmia or total congenital ankyloblepharon and symblepharon accompanied by abnormality of the eyeballs. The first is a woman, aged 24 years, who was born with the upper and lower lids of both eyes firmly united. There is an indication of a palpebral fissure and in the centre are two rows of hairs. When two years of age the left eye was opened by a surgeon and an imperfectly developed eyeball was found: four years later the right eye was opened and a small globe was found embedded in a mass of connective tissue towards the nasal side of the orbit. No corneal tissue could be seen. There was no history of consanguinity. The patient married a man who had lost his eyes in a mine explosion, and their baby, the second case, is a duplicate of the mother. This child, aged 7 months, presents apparently a modified conjunctiva at the junction of the two lids and a few cilia with a partially formed caruncle in each eye. A small eyeball is present in each orbit.

T. R. WHIPHAM.

Congenital blennorrhœa of the lacrimal sac (*Ophthalmic Review*, September, 1910, p. 262).—**John Foster** believes that in certain cases this condition may be cured by the expression treatment, which may be briefly described as consisting of frequent emptyings of the sac by pressing that structure against the lacrimal bone, coupled with the employment of zinc chloride or other astringent drops to the conjunctiva afterwards. Silver nitrate (gr. ij to the ounce) or 1 per cent. protargol may be occasionally painted on the everted conjunctiva if thought necessary. If this treatment be properly carried out there should, in his opinion, be no necessity for operative interference, involving slitting of the canaliculus and passage of the probe. Notes on two cases are appended.

J. ALLAN.

The ophthalmia of the newborn, its causation, prevention, and treatment (*Med. Record*, July 30, 1910, p. 211).—**Elbert S. Sherman**.—About 65 per cent. of the cases are caused by the gonococcus, 10 per cent. by the pneumococcus, 10 per cent. by other pathogenic organisms, and 15 per cent. are negative bacteriologically. Contamination of the eyelids occurs during the passage of the child through the vagina, but actual infection of the eyes takes place after birth, for, in the majority of cases, the lids at birth are closed and sealed. Simple, careful methods of prophylaxis give results almost as good as the best results of the Credé method, which is of great value if properly carried out. In the large majority of cases in private practice, and always in hospitals, drops should be used in the eyes soon after birth: 1 per cent. silver nitrate solution is the proper prophylactic agent. Secondary infections by means of contaminated towels, bed-linen, dirty fingers, etc., must be guarded against. At the first bath separate water should be used for the face, and care taken to prevent any bath water entering the eyes. Infections frequently occur during the first bath. With early treatment prognosis is good, but it requires much faithfulness on the part of the attendants, and should be supervised by one skilled in the treatment of diseases of the eye.

J. ALLAN.

Hypernephroma tumours of both optic nerves and hydrocephalus with obesity and signs of precocious development (*The Ophthalmol-*

scope, 1910, p. 562).—**Leonard Guthrie** and **W. D'Este Emery** record a case in a girl, aged 4 years, hydrocephalic since birth, and almost blind from advanced primary optic atrophy. In appearance she resembled a short, stout girl at the age of puberty. The breasts, however, were not enlarged, and there was no local or general hirsuties. Death followed puncture of the lateral ventricle made to relieve the increasing intra-cranial pressure. Autopsy: the site of the left supra-renal was occupied by a tumour, fibromatous or fibro-sarcomatous in structure, and containing a few giant cells. Examination of the brain showed advanced internal hydrocephalus. A symmetrical tumour occupied the position of the optic chiasma, and extended forwards along the optic nerves to each optic foramen, backwards into the crura, and outwards into the region of the Sylvian fissure. In structure it resembled a glioma, but it also contained some giant cells similar to those found in the adrenal tumour. The ovaries were relatively large. The other organs were normal. J. D. ROLLESTON.

Pseudo-membranous streptococcal conjunctivitis (*Thèses de Paris*, 1909-10, No. 375).—**T. T. David**.—This is a rare affection, and almost the exclusive appanage of children. It is rarely primary, but usually occurs in the course of an infectious disease, or coincides with a naso-lacrymal or palpebral lesion, or an affection of the neighbouring skin, such as impetigo, eczema, or erysipelas. Its gravity equals, if it does not exceed, that of diphtheritic conjunctivitis, from which it cannot be distinguished clinically but only by bacteriological examination. The streptococcus may be associated with other organisms such as the staphylococcus or diphtheria bacillus, but the aggravation of the disease which is the rule in such cases is probably due to an excessive virulence of the streptococcus. Treatment should consist in irrigation and disinfection of the conjunctivæ. Anti-streptococcic serum should be employed, and silver nitrate avoided. The thesis contains the histories of nine cases, including a personal one, in children aged from eight months to six years. Two cases were suffering from scarlet fever, two from measles, and one from influenza. J. D. ROLLESTON.

An unusual case of diphtheria of the conjunctiva and cornea (*The Ophthalmoscope*, 1910, p. 563).—**Sydney Stephenson** gives notes of a case of conjunctival diphtheria affecting a boy, aged 6 years. The peculiarity of the case was that the stress of the morbid change fell upon the ocular conjunctiva and the cornea, and not, as is usual, upon the palpebral conjunctiva. The face was covered with impetiginous sores, and thick pus poured from the nostrils. The child seemed very ill. The eyelids were not markedly thickened, and they could be everted, although not without some little difficulty. The ocular conjunctiva and the cornea of both eyes were covered with adherent membrane, of ashen-grey colour, so that the entire anterior part of the eye, including the cornea, presented a whitish-grey appearance, almost as though the parts had been cauterised. There was no pronounced enlargement of the pre-auricular glands. There were patches of membrane in the throat, especially on the right side. In smears taken from the conjunctiva were found (1) numerous and typical Klebs-Loeffler bacilli and (2) streptococci. The same organisms were found in culture. Anti-toxin was injected twice in large doses, and under this treatment the condition quickly cleared up. J. ALLAN.

Panophthalmitis and meningitis in scarlet fever (*Monatschr. f. prakt. Derm.*, 1910, Bd. LI, p. 270).—**G. Leoz**.—A boy, aged 8 years, had an

attack of scarlet fever, which during the first ten days ran a mild course. Two or three days after the temperature had become normal he suddenly complained of severe pain in the left eye, and the temperature rose to 102.2° F. The eyeball became enlarged, the conjunctiva and lids injected and cedematous, the cornea hazy, and the lens was driven into the anterior chamber. The ophthalmoscope showed pus in the vitreous, indicating suppurative choroiditis. Enucleation was refused, and death took place two days later from meningitis.

J. D. ROLLESTON.

Phlyctenular disease and tuberculosis (*'Brit. Med. Journ.,'* 1910, I, p. 916).—**Sydney Stephenson** and **J. A. Jamieson** used von Pirquet's test in twenty children aged from two to twelve years who were suffering from various forms of phlyctenular disease, and obtained a positive result in every case. About 50 per cent. showed more or less obvious signs of medical and surgical tuberculosis, and 75 per cent. gave a family history of tubercle. **H. Haward Bywater** (*'Ophthalmoscope,'* 1910, pp. 414 and 492) subjected twelve cases of phlyctenular disease in children aged from three to fourteen years to Moro's percutaneous inunction test and obtained a positive result in all, two giving a mild, nine a moderate, and one a strong reaction. Six had a family history of pulmonary tuberculosis. None showed any evidence of phthisis, but eight showed other signs of tuberculosis, such as enlarged cervical, axillary, or mesenteric glands. In fifteen cases, in which these twelve were included, the percutaneous test with bovine tuberculin was used. All gave a positive reaction, which in twelve was somewhat greater than with human tuberculin. In thirteen cases von Pirquet's test with bovine tuberculin was used, in every case with a positive result.

J. D. ROLLESTON.

A clinical study of obsolescent tuberculous choroiditis of the macular region of children (*'The Ophthalmoscope,'* 1910, p. 409).—**T. Harrison Butler** believes that this condition is more common than is usually supposed. The affected child is of a decidedly tuberculous type, generally refined looking, and highly intelligent. The skin is transparent and pink, the hair blonde or brunette, and the eyelashes are long and sweeping. None of his patients have been anæmic, nor has the skin been thick, or the features coarse. The children had all, at the time they were under his observation, been healthy and bright and had not been feverish, nor have they had enlarged glands, phlyctenulæ, or other signs of tuberculosis. There had been no blepharitis, photophobia, lacrymation, or any external inflammatory manifestation, nor had there been any keratitis punctata, vitreous opacities, or any sign of chronic cyclitis. The patients were well fed, well cared for, open-air children. The ophthalmoscopic examination demonstrates in the final stage of the disease a patch of quiescent choroiditis or choroidal atrophy, in some cases excavated, generally surrounded by pigment, at or near the macula. The early stage is either a single solitary tubercle or an aggregation of three or four medium-sized tubercles. Central vision is always very poor. The optic disc may show atrophy of the macular bundle or it may itself be surrounded by tuberculous foci, and be in a state of complete secondary atrophy. Tuberculin may be of use diagnostically and therapeutically. The author gives details of the cases which have come under his observation.

J. ALLAN.

Dermatology.

Congenital Mongolian blue patches (*Lyon Méd.*, 1910, No. 22, p. 1122).—**MM. Planchu and Rendu** showed at the Soc. de Méd. de Lyon a girl, born on February 20 in a lying-in hospital at Lyons, with a blue patch on the buttock as large as the palm of the hand. The outline was irregular and indefinite. Small similar patches existed on the left shoulder-blade and anterior superior iliac spine. There were no signs of Mongolism such as brachycephalus, obliquity of ocular slits, epicanthus, enlargement of inter-orbital space, etc. Intelligence seemed rather below the age, which was two months. As far as could be ascertained no ancestors had ever been abroad. The authors refer to the various theories of the cause of these patches, and conclude that they do not constitute a character of the Mongolian race but a normal phenomenon of development, presenting merely quantitative varieties according to race; they appear rather as stigmata of atavism in white races as an anomaly of reversive order, tending to prove that men have descended, from one and the same race, doubtless black, but certainly dark coloured and from one common and distant ancestor.

VINCENT DICKINSON.

The Mongolian blue patch (*Thèses de Paris*, 1909-10, No. 1).—**H. Carnot**.—This is situated as a rule in the sacral region. It is present at birth, and then gradually fades, and disappears entirely by the age of six or seven years. It was at first described as occurring only in the Mongolian race with a frequency of 80-90 per cent., but it is also found among coloured races generally. Within the last few years it has been noted among European children of a pure stock, among whom it occurs with an average frequency of 0.5 per cent. Histologically the patch is due to the presence of numerous richly pigmented cells situated in the deep layers of the dermis. These cells are grouped round the capillaries and are probably due to the proliferation of the endothelium. The occurrence of the patch in European children is not due to the introduction of Mongol or negro blood, but should be regarded as a mark of atavism, indicating a common descent from a black or dark-skinned ancestor. Carnot states that similar patches are met with in several species of monkeys, whereby another argument is furnished in favour of the doctrine of evolution. The thesis is inspired by Apert, who recorded the first case in France in 1909 at the Soc. Méd. des Hôp., and contains an account of two cases, one of which has hitherto been unpublished.

J. D. ROLLESTON.

Epidermidolysis bullosa congenita (*Journ. of Amer. Med. Assoc.*, April 2, 1910).—**Kanoky and Sutton** saw a case of this uncommon disease in a girl, aged 3 years. It was characterised by vesicles, hæmorrhagic blebs and epidermic cysts on the skin in all parts, especially on the hands, where the skin was thin, parchment-like, and atrophic. The nails as the result of repeated exfoliation had atrophied and practically disappeared, and on the scalp were several bald spots. The lesions were frequently the result of slight injuries. Sections showed that in the skin there was œdema and absence of elastic tissue in the papillary and sub-papillary regions.

T. R. WHIPHAM.

Congenital ichthyosis (*St. Petersburg. med. Woch.*, May 8, 1910, p. 275).—**Hörschelmann** showed a girl, aged 4 years, who presented this

affection at birth. Her present weight was $36\frac{1}{2}$ kilos. The skin was thickened everywhere, dark-coloured, and in places, such as the ears, nose, and forehead, very hard. There was no lanugo, the hair was well-grown.

M. D. EDER.

Cutaneous diphtheria (*'Brit. Med. Journ.,'* 1910, II, p. 859).—**G. W. Dawson** read a paper before the British Medical Association on ten cases, four of which he had seen himself. All but two occurred in children. Four died. Seven were of an impetiginous eczematous type, and in three there were vesicles or bullæ which gave rise to a profuse discharge. One of these was at first regarded as a case of dermatitis herpetiformis. Four had severe conjunctivitis. The most typical form occurs in children, and closely resembles impetiginous eczema, nearly always affecting the head and face, and associated with severe conjunctivitis, sometimes with otorrhœa and rhinitis. Owing to the ubiquity of harmless diphtheroid organisms the diagnosis of cutaneous diphtheria should not be made until the virulence of the organism has been tested. The disease is very resistant to ordinary treatment, lasting for years, but invariably responds to antitoxin. Dawson agrees with Trousseau in holding that a damaged epidermis is necessary for the invasion of the skin by diphtheria. In the subsequent discussion **Pernet** described a case in a child which had come under observation for a gangrenous lesion round the anus. Improvement followed local injections of carbolic acid, but palatal paralysis ensued. The diagnosis of diphtheria was then made and antitoxin was injected, but diaphragmatic paralysis and death soon occurred.

J. D. ROLLESTON.

Symmetrical gangrene after scarlet fever (*'Arch. f. Derm.,'* 1909, Bd. xcvi, p. 21).—**K. Potpeschnigg**.—An imbecile boy, aged 2 years, six weeks after the onset of scarlet fever developed swelling of both hands. A gangrenous patch subsequently appeared on the right index. On admission to hospital three months after the onset of scarlet fever all the fingers of both hands were gangrenous. Otherwise the physical condition of the child appeared normal. Gram-positive streptococci were cultivated from the purulent contents of the bullæ, and proved rapidly fatal to guinea-pigs after subcutaneous injection. The gangrene continued to extend, and on the sixth day after admission the temperature rose. Death took place five days later from septicæmia. No thrombosis of the large vessels of the extremities was found at the necropsy. In a review of the literature of post-infectious and spontaneous gangrene reference is made to the case recently recorded by Heubner (*v. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1909, p. 235). Potpeschnigg attributes the occurrence of gangrene in his own case to nervous influences without definitely affirming the existence of an angio- or tropho-neurosis.

J. D. ROLLESTON.

Hebra's prurigo and tuberculosis (*'Hospitalstidende,'* 1910, p. 835).—**H. Boas** tested twelve cases of Hebra's prurigo, ten of whom were children, with subcutaneous injections of tuberculin. Seven gave a positive and five a negative reaction. Boas concludes that Hebra's prurigo has no connection with tuberculosis.

J. D. ROLLESTON.

Œdema of the lower half of body (*'Wien. klin. Rundschau,'* January 23, 1910).—**Goldreich** showed a boy, aged 2 months, with chronic œdema of the lower half of the body. The swelling had a doughy feel and the upper

limit was sharply defined; no depression was left by the finger. **Rosenberg** found that the duration of the disease never extended beyond the third month, and usually was sharply limited by a straight line right under the navel. M. D. EDER.

Recurrent furunculosis in an infant showing an unusual blood picture (*Journ. of Amer. Med. Assoc.*, June 4, 1910).—**Leale** saw an infant, aged 3½ months, who had recurrent attacks of furuncles with fever. There was no marked anæmia, the hæmoglobin never being below 55 per cent. and the red corpuscles being up to the minimum normal for that age. The white corpuscles were not markedly increased in number: indeed, as a rule there was a leucopenia. Differential counts, however, showed small lymphocytes 61·8 to 69·2 per cent.; large lymphocytes 25·2 to 34 per cent.; polymorphonuclears 1 per cent.; eosinophiles 0·8 to 3·8 per cent.; basophiles 0·2 to 0·8 per cent. Cultivation of the pustules grew pure cultures of *Staphylococcus pyogenes aureus*. T. R. WHIPHAM.

Noma (*Arch. de Méd. des Enfants.*, 1910, p. 666).—**M. Breuer**.—Noma is a comparatively rare affection. At the Hôpital St. Pierre, Brussels, on the average only one case is met with in a year out of a total of 450 admissions. As a rule it is a sequel of infectious diseases, especially measles. Attempts made to produce noma experimentally by inoculation of certain micro-organisms into animals have failed. At most abscesses at the injection site, and sometimes septicæmia have resulted. Breuer's own case was in a rickety girl, aged 2½ years, in whom the complication developed after disappearance of the measles rash. When death took place a week after the onset of the noma there was considerable destruction of the lips, tongue, alæ nasi, superior maxilla, vomer, and turbinate bones. At the necropsy were found numerous foci of broncho-pneumonia, degeneration of the kidneys, liver and myocardium. In addition to spirilla and different varieties of cocci, bacteriological examination showed a large number of thick bacilli closely resembling those described by Schimelbusch in 1889 as present in noma. Breuer concludes that noma is not a distinct disease due to a single germ, but holds that the debility caused by a previous illness, especially measles, prepares the ground for the development of certain microbial associations in which sometimes one and sometimes another micro-organism predominates. J. D. ROLLESTON.

Favus (*El Siglo Médico*, June 4, 1910, p. 355).—**Oyarzábal** denies that X rays are a good remedy for ordinary favus; they will cure the atypical form without the cup-shaped crusts just as they will any other cause of hair falling off. The only true remedy is epilation; this should be done with meticulous care, pulling out each hair in the direction of its growth and taking great care not to break it. In conjunction with this, ointments, such as sulphur 10–20 per cent., tar, juniper oil, ichthyol, should be applied at night and washed off in the morning. Favus of the body should be treated by plasters or baths. Favus of the nails requires emulsion if fomentations with Gram's solution or iodine dissolved in alcohol have no effect. M. D. EDER.

Treatment.

Diphtheria antitoxin in local treatment and prophylaxis (*Lyon Méd.*, June 5, 1910).—**Thevenot** recommends the local application of dried

antitoxin as an additional treatment of diphtheria and also for a time after recovery. Tablets of the dried serum are allowed to melt in the mouth and aid in sterilising the throat. The local application may also be useful as a prophylactic measure.

T. R. WHIPHAM.

Treatment of scarlet fever ('*Berlin. klin. Wochens.*, May 16, 1910).—**Jochmann** and **Michaelis** consider that it is the presence of the streptococcus which renders scarlet fever especially severe, though it is not to be regarded as the actual cause. They have obtained good results by combining anti-streptococcus serum with vaccine therapy, and find that the effects are better than if either be employed alone. In fifty-two severe cases in which they carried out this method fourteen of the patients died and thirty-eight recovered without any complications. The absence of nephritis they regard as more than a mere coincidence. A number of patients recovered in whom streptococci had been found in the blood, whereas previously scarcely any such survived.

T. R. WHIPHAM.

The use of vaccines, serums, and the Hiss extract of leucocytes in the treatment of eye, ear, nose, and throat affections ('*New York Med. Record*, July 30, 1910, p. 178).—**J. G. Dwyer**, in a long and interesting paper, comes to conclusions which may be briefly stated as follows: (1) Vaccines are contra-indicated in acute constitutional diseases (pyæmia, etc.), but the leucocyte extract finds its greatest field of usefulness. (2) In the locally acute, subacute, and chronic cases, the vaccines are more useful and act almost as specifics. (3) Autogenous vaccines should always be used. (4) Fresh vaccines should be made frequently. (5) Administration should be guided by clinical symptoms. (6) Tuberculin should not be used in tuberculosis when general constitutional symptoms are present. (7) Small doses often repeated are better than large ones seldom repeated. (8) Always have in view the danger of anaphylaxis. (9) Always combine other general medicinal and hygienic measures with the vaccine treatment. (10) Do not, in serious cases, wait until the patient is *in extremis*, but start the leucocyte extract early. Several striking cases are described, notably one of pansinusitis in a child, aged 9 years, and one of acute mastoiditis in an infant, aged 18 months.

MACLEOD YEARSLEY.

Vaccines in the treatment of various bacterial infections in infants and young children ('*New York Med. Record*, August 6, 1910, p. 229).—**Gill** gives a preliminary and lucid explanation of Wright's opsonin theory and describes his own experience, extending over six months and forty-nine cases. Thirty-nine of these were subacute or chronic otitis media. Of these twenty-eight were cured, ten were improved, and one remained unimproved. Of these cases some details are given. He does not consider it necessary to take the opsonic index in these cases, preferring to rely upon the clinical symptoms. The only treatment locally was washing out the ears with boric acid solution. Gill considers that the use of vaccines gives a powerful aid in dealing with local infections.

MACLEOD YEARSLEY.

A suppurative adenitis treated with streptococcus vaccine ('*New York Med. Rec.*, September 17, 1910, p. 492).—**F. O. de Beeck** describes two cases. The second was a child aged 5 years, with a suppurative adenitis following a sore throat, with a temperature of 103° F. Three injections

of streptococcus vaccine of 5,000,000 each were made. In six days the temperature was normal and the "adeno-plegmon" (*sic*) underwent resolution.
MACLEOD YEARSLEY.

Treatment of spasm of the glottis with a milk-free diet (*'Therap. Monatschr.,'* May, 1910).—**Fischbein** and **Langstein** assert that a change from cow's milk to a carbohydrate diet is often a prompt remedy in cases of spasm of the glottis and general convulsions in a diathesis tending to spasm. The change in diet may differentiate such cases when the signs otherwise are suggestive of meningitis or otitis media. It is also useful in controlling the paroxysms of whooping-cough. A starch diet, however, may have a bad effect on infants suffering from gastro-intestinal disturbances, and in these breast-milk is alone permissible.
T. R. WHIPHAM.

Treatment of severe laryngitis in measles (*'Thèses de Paris,'* 1909-10, No. 452).—**A. Girard** describes two varieties of laryngitis in measles: (1) True measles laryngitis without diphtheria bacilli. (2) Diphtheritic laryngitis. Each of these may be pre-eruptive, co-eruptive, or post-eruptive. Medical treatment is often sufficient for the first variety, and should consist in the administration of anti-spasmodics and injection of morphia together with fomentations to the neck and cold applications to the thorax. If these fail, intubation should be resorted to. In the pre-eruptive stage the stay of the tube in the larynx will be only twenty-four hours, but in the co-eruptive or post-eruptive stages will be prolonged to four days. In diphtheritic laryngitis occurring in measles antitoxin should be injected early and in large doses. Medical treatment is not so successful as in the first variety, but intubation should be employed when surgical intervention becomes necessary.
J. D. ROLLESTON.

Treatment of empyema without resection of a rib (*'Journ. of Amer. Med. Assoc.,'* April 30, 1910).—**Colton** advocates the drainage of purulent pleural effusions by means of a silver tube without resection of a rib. At the operation the patient is placed on the affected side with a pad under the back, and an incision is made in the seventh or eighth interspace in the mid-axillary line, where the ribs are usually farthest apart and the chest-wall thinnest. After the evacuation of the pus by the introduction of dressing forceps a small silver drainage-tube is inserted. The external end of the tube is split in two diameters at right angles to one another and the four pieces thus formed are bent outwards, so as to lie over the skin and hold the tube in position. The average length of time for the use of the tube in the author's experience has been about twenty-one days.
T. R. WHIPHAM.

Treatment of chorea with large doses of arsenic (*'Med. Record,'* July 2, 1910).—**Hassin** and **Herschfield** conclude that arsenious acid in a one in a thousand solution is safer than Fowler's solution. A boy, aged 8 years, was found to bear five teaspoonfuls of the arsenious acid solution, (*i. e.* $\frac{1}{3}$ gr.) but showed signs of intolerance from nine minims of Fowler's solution even after his system had been somewhat used to the drug. The time of treatment is considerably shortened by using the acid, improvement being noticed very early. The authors do not consider it excusable to deprive chorea patients of the benefits of arsenic on account of possible complications.

The ill-effects of arsenical treatment can be mitigated by using arsenious acid and can be avoided by paying attention to the condition of the gastrointestinal and renal tracts.

T. R. WHIPHAM.

Treatment and education of abnormal children in hospital schools (*Journ. de Méd. de Bord.*, 1910, p. 546).—**Cruchet** classifies these in two groups. First, physically infirm children suffering from anæmia, scrofula, coxalgias, partially blind or deaf, epileptics, etc.; these cannot be taught in an ordinary school, and if left to themselves fall into habits of laziness or vice against which it is very difficult to strive. The second group are children with a purely corporal trouble such as hemiplegia, myopathies, cerebral sclerosis, to which are added mental troubles; these children are a great tax on their parents and cannot be taken into any ordinary school or hospital. Before entering the school the children are examined in vision, hearing, speech, etc., and the hours of work and kind of teaching determined upon. They are subjected to a vigorous hygiene, including massage, orthopædy, etc., where indicated, and to special forms of gymnastics, etc. Many children can be sent back to their parents after six months to two years of treatment; others, of course, require longer stay. Anyhow, in this way many infirm children may be rendered fit for an active life and for a society which would have otherwise been impossible for them.

J. PORTER PARKINSON.

Treatment of nævus with light and radium (*Deutsch. med. Wochens.*, February 17, 1910).—**Kromayer** reports forty cases which he has treated with either the mercury quartz lamp or radium, or with both of these measures. Small arterial nævi react favourably to the radium treatment as its action is deeper than that of the lamp, but the latter is effectual for extensive reddish and purple nævi if they are superficial and chiefly due to dilatation of capillaries, with but slight involvement of the arteries. Moderately large, mixed nævi require a combination of both light and radium treatment. The author has never obtained any durable benefit from X-ray treatment, the action on the vessels being different to that of radium. With the mercury lamp four or five exposures were given, and not more than two or three with the radium, the duration of the exposures being never over an hour. Only a few of the cases derived no benefit from the treatment.

T. R. WHIPHAM.

Reviews of Books.

THE DISEASES OF CHILDREN. By J. F. GOODHART, M.D., LL.D., F.R.C.P. Ninth edition. Edited by G. F. STILL, M.A., M.D., F.R.C.P. London: J. and A. Churchill, 1910. Price 15s. net.

If it be true that "good wine needs no bush," it is true that a ninth edition needs no criticism. In commending the present issue we have to mention certain new features. There are a few illustrations which may interest those to whom this form of instruction appeals, and there is much new

matter—the book is larger by one hundred pages—while every chapter bears evidence of most careful pruning and grafting of the old stock.

Thus, there are notes on the various tuberculin reactions, a new section on the status lymphaticus, and, to instance the revision, the chapter on scarlet fever is almost entirely re-written, and includes mention of Dr. Milne's eucalyptus oil inunction treatment, and the use of polyvalent serum.

In Dr. Milne's hands the eucalyptus treatment has produced striking results, which, perhaps, suggest nothing more than that scarlet fever is less contagious than is usually supposed; at present they await confirmation by other observers.

The value of the recognition of Koplik's spots in the early diagnosis of measles is emphasised, and confirms the favourable reports of the German and American authorities.

In the treatment of diphtheritic paralysis the use of adrenalin has been so favourably reported upon—and confirmed by the reviewer in his own practice—that it deserves, but does not receive, mention in this edition.

Surgical conditions receive considerable attention, and the authors, with a wide conception of the meaning of medical treatment, have included an account of the necessary operative procedures. The remarks on tracheotomy and on the treatment of empyema are admirably judicial and helpful.

To those who do not know this treatise we recommend a study of the introductory chapter, which deals with the modifications in the recognition and treatment of disease incidental to infancy and early childhood. The first nine chapters, on the newborn infant, natural and artificial feeding of infants, and diet disorders, are of especial value, and the appendix of formulæ employed by the authors will be found a most useful guide to the drug treatment of children.

To those who know their "Goodhart and Still" we need say no more than that this edition is larger, more up-to-date, and more advanced than its predecessors.

DISEASES OF THE SKIN, INCLUDING RADIOTHERAPY AND RADIUM-THERAPY.

By ERNEST GAUCHER, Professor of Cutaneous and Syphilitic Diseases at the Faculty of Medicine and Physician to the St. Louis Hospital, Paris. Translated and edited by C. F. MARSHALL, M.Sc., M.D., F.R.C.S., Surgeon to the British Skin Hospital. With numerous illustrations. London: John Murray, 1910. Price 15s. net.

THIS book, as we learn from the preface, comprises the second edition of the volume on diseases of the skin in the 'Nouveau Traité de Médecine' of Bouchard, Gilbert, and Thoinot, written by Professor Gaucher in collaboration with other authorities; together with chapters on cutaneous syphilides and the treatment of syphilis from Professor Gaucher's 'Précis de Syphiligraphie.' In the introduction an interesting account is given of the old doctrines of diathesis and metastasis, which, in a modified form, Professor Gaucher still upholds. A striking feature of the work is the simplicity of the general treatment and the absence of new-fangled remedies. As an example of this we may mention the treatment of acute eczema by compresses of aseptic gauze soaked in boiled water.

The value of radium in the treatment of nævi is shown in a series of striking photographs by Wickham and Degrais, who state that the convenience and painlessness of the application are of special value in young children

who can be treated during sleep. The X-ray treatment of naevi, according to Gaston, is also satisfactory, provided the child can be induced to keep still long enough.

On p. 334 the new methods for treating lupus are described, and the relative merits of phototherapy, radiotherapy, and radium-therapy discussed.

In his account of the X-ray treatment of ringworm, by which the duration of treatment is reduced from two years to three months, Professor Gaucher urges the necessity of very careful manipulations, as he has seen three cases treated by an expert in which the rays caused incurable cicatricial alopecia with atrophy of the skin and telangiectases. Dr. Marshall is to be warmly congratulated on his excellent translation, the value of which will be particularly appreciated in the highly technical description of treatment by radium and X rays. Readers should be grateful for the addition of an index, which is wanting in the original.

MEDICAL SUPERVISION IN SCHOOLS. By E. M. STEVENS, M.B., Ch.M.,
Royal Commissioner for South Australia. London: Baillière, Tindall & Cox, 1910. Pp. 268. Price 5s. net.

AFTER a description of the origin and purport of medical inspection and a sketch of the English Act and its provisions, a full account is given of the London system. A chapter is then devoted to the Cambridge Dental Institution. The following six chapters deal with medical inspection in Scotland, and the rest of the book is concerned with the methods adopted by the United States, Germany, and Switzerland. Contrary to the usual opinion, the school children of Germany, particularly those of Wiesbaden, are instanced as the most hunger-stricken in Europe. The author everywhere rightly insists on the absolute necessity of providing abundant nourishing food for the school children if the money spent on education is not utterly to be wasted. The position of the hungry, ignorant and helpless parents is justly stated. The picture of the average American school medical officer with baggy, greasy habiliments, unclean linen, a three days' beard, and a quid of tobacco in his cheek is somewhat startling.

The book is well printed, illustrated and indexed, and can be cordially recommended to medical men, school teachers and inspectors. The summaries, lists of objections, and estimates of costs are excellent features.

ZUR KENNTNIS DER ORTHOTISCHEN ALBUMINURIE. By FRITZ GÖTZKY.
Berlin: S. Karger, 1910. Price 5 marks.

THIS is a contribution to the literature bearing on the problems which still surround the subject of orthotic, or orthostatic, or postural albuminuria. The German and French views are given in full, and the writer then proceeds to give clinical details of the examination of twelve cases under his own care. His conclusion is that, while a pure postural albuminuria without nephritis does exist, the subjects of this condition are liable at any time to develop nephritis from some acute infection, which may be trifling in itself *e.g.* tonsillitis. The result is chronic nephritis, or, as he terms it, orthotic nephritis. The condition is determined by the finding of renal casts or red blood-cells in the urine of a patient with the other signs of postural albuminuria. He agrees with other writers in recognising a

general constitutional disturbance in the subjects of postural albuminuria, as manifested by headache, weariness, loss of appetite, and palpitation, but is not prepared to say what the nature of it is. The neurasthenic or hysterical symptoms accompanying the trouble are accidental, not causative. He notes a condition of dermatography as being present in all his cases of orthotic albuminuria. Fluctuation in the amount of albumin from day to day under the same conditions of life is one of the puzzling features of this disease. In discussing the pathogenesis, he refers to the two theories as to the origin of the albuminuria, the mechanical and the vaso-motor. He believes there is deficient vaso-motor control which shows itself on a change of posture by a diminution of the arterial pressure, and consequent disturbance of the renal function.

Correspondence.

DWARFISM OF SUPRARENAL ORIGIN ?

To the Editor of THE BRITISH JOURNAL OF CHILDREN'S DISEASES.

SIR,—The abstract with the above heading on p. 464 of your last issue describes a rare disease of a striking character, two cases of which were recorded in the 'Medico-Chirurgical Transactions' of 1892 and afterwards in the 'Practitioner,' 1904, where it was named "progeria."

Upon referring to the admirable description and pictures of their case given in detail by MM. Variot and Pironneau in the 'Bull. de la Soc. de Pédiat. de Paris' for June, 1910, it is obvious that the resemblance to those two original cases is so close that the description of one would in all essentials almost serve for the description of the others.

Progeria has been noticed in some serial publications, as well as in Osler's 'Medicine,' Osler and McCrae's 'System,' and Cautley's 'Diseases of Children.'

Since the details of the first two cases were published a look out has been kept for the report of fresh examples of the disease, but hitherto without success. The disease must therefore, fortunately, be exceedingly uncommon, for it is of such a sensational character that it is hardly possible that it should be passed by without attracting special attention. A post-mortem examination was made of one of the original cases which died at eighteen, when it was found that the mingled infantilism and senilism which characterised the external features of the malady were also manifest in the internal organs. Among the organs prematurely senile were the supra-renal bodies, but there was no indication that their atrophy was anything more than incidental to the general senility.

Yours truly,
HASTINGS GILFORD.

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THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

VOL. VII.

DECEMBER, 1910.

No. 84.

Original Articles.

GANGRENE OF LEG FOLLOWING DIPHTHERIA.*

By J. D. ROLLESTON, M.D.,

Assistant Medical Officer, Grove Fever Hospital, London.

A BOY, aged 13 years, was admitted to the Grove Hospital for diphtheria on June the 19th, 1910, the seventeenth day of disease. The acute attack had been mistaken for mumps by the father, and it was not until his brother had been infected that a doctor was sent for and Klebs-Loeffler bacilli were found in the throat. About a week before admission his voice had become nasal and he had had regurgitation of fluids through the nose. On admission the tonsils showed some opacity, but the throat was free of membrane. The voice was nasal. The knee- and ankle-jerks were active, and the plantar reflex was flexor. The heart was irregular. No antitoxin was given. The same evening the right leg from the knee downwards became cold, pale, and anæsthetic. The toes could not be moved, nor the ankle flexed. The plantar reflex was lost. The circulation was re-established in about four hours. During the next week the heart became much dilated and a loud mitral systolic murmur developed. Both liver and spleen were enlarged and tender. Albuminuria was present from admission till the thirty-fifth day.

* Case reported to the Section for the Study of Disease in Children of the Royal Society of Medicine, October the 28th, 1910.

On the twenty-first day both legs became cold, discoloured and numb. Pulsation was feeble in the posterior tibial and dorsalis pedis arteries. The boy also complained of tingling in both palms, but no alteration was detected in the radial pulses. On the following day the discoloration of the legs had gone. On the thirtieth day sudden pain occurred in the left leg, followed by discoloration. There was marked tenderness in the popliteal space, where the pulsation of the popliteal artery could not be felt. The femoral pulse was present in Scarpa's triangle. Gangrene rapidly developed in the left foot and leg. The photographs show the condition on the thirty-second day. The gangrene did not extend, and apart from the development of

FIG. 1.



some bullae was kept fairly dry and sweet by means of iodoform. On his transfer to Charing Cross Hospital, on August the 23rd, the eighty-second day of disease, the gangrenous area involved the whole of the left foot and extended on the inner side 4 in. above the lower end of the internal malleolus, on the outer side to $3\frac{3}{4}$ in. below the head of the fibula, and posteriorly to 7 in. below the popliteal space. There was still some cardiac dilatation, but the systolic murmur had disappeared. The blood-pressure, taken with C. J. Martin's modification of the Riva-Rocci sphygmo-manometer, from admission until the end of the fifth week was 80 mm. Hg., sometimes falling to 70; during the sixth week it ranged between 80 and 100, and in the seventh week and subsequently it was 100 to 96.

The voice was clear at the time of transfer, but the right knee- and ankle-jerks were lost. The vision had been frequently tested, but no ocular palsy had been detected. Amputation at the knee-joint was performed by Mr. H. S. Clogg on August the 29th, the

eighty-eighth day of disease, when an organising clot was found in the popliteal artery. Subsequent recovery was uneventful.

Gangrene of the extremities as a sequel of infectious disease is relatively rare, though its occurrence has been known since the time of Thucydides, who, in his description of the plague of Athens in 430 B.C., relates that some recovered after loss of their hands and feet (Bk. ii, c. 49). The nature of the Athenian epidemic has not been satisfactorily determined, though attempts have been made by medical historians to identify it with one or other of the acute infections, but not, so far as I know, with diphtheria. Estlander,

FIG. 2.



who regarded the epidemic as one of typhus, states that gangrene of the limbs was also noted in the typhus epidemics of the middle ages, and in the sixteenth, seventeenth, and earlier part of the nineteenth centuries.

Barraud, in 1904, in an exhaustive monograph on gangrene of the extremities in young persons after infectious disease, has collected 103 cases in patients up to the age of thirty, but only 29 of these were under fourteen, *i. e.* as young as my patient. Nine of these followed typhoid fever, 5 measles, 4 scarlet fever, 2 diphtheria, and 1 each of the following diseases: typhus, pneumonia, influenza, varicella, whooping-cough, tonsillitis, appendicitis, umbilical phlebitis, and acute gastro-enteritis. In 27 the gangrene involved the lower, and in 2 the upper extremities.

In addition to the two cases in Barraud's list following diphtheria recorded by Henoch and Rosenthal respectively, I have been able

to collect eight other cases of gangrene of one or more extremities following diphtheria, thus making a total of eleven, including the present case.

The following is a brief account of these cases arranged in chronological order. I have not been able to consult the original papers in which Cases 1, 2, 7 and 8 were described.

(1) 1875. Moroni's case. Gangrene of an extremity following diphtheria.

(2) 1878. Menzel's case. Gangrene of leg after faucial diphtheria; amputation at upper third of leg.

(3) 1879. Vedder's case. Boy, aged 8 years. Thirteen days after onset of severe faucial and nasal diphtheria gangrene of right leg developed, followed in three days by transient right hemiplegia and aphasia. Two days later pain in left leg. Death two days afterwards. No necropsy.

(4) 1883. Poupon's case. Girl, aged $7\frac{1}{2}$ years; laryngeal diphtheria, tracheotomy, albuminuria. Discharged in apparently good health fourteen days after admission. Re-admitted ten days later with great dyspnoea. Pulmonary embolism diagnosed. Signs of right popliteal embolism next day. Violet patches on right foot. Death on following day. Necropsy: Clot in femoral artery extending from opening in adductor magnus to middle of popliteal artery. Lungs not examined.

(5) 1890. Henoch's case. Boy, aged 8 years; very severe diphtheria. Gangrene of lower limbs. Necropsy: Thrombosis of both iliac arteries.

(6) 1890. Rosenthal's case. Girl, aged 2 years; severe diphtheria. Gangrene of both legs. Necropsy: Thrombosis of common iliac arteries.

(7) 1894. Munn's case. Embolus following diphtheria. Gangrene of left leg; amputation; recovery.

(8) 1894. Ward's case. Gangrene of left leg caused by an embolism the result of diphtheria.

(9) 1902. Breton's case. Girl, aged 3 years; moderate attack of diphtheria treated with antitoxin. Seventeenth day: Heart irregular; complete left hemiplegia and signs of thrombosis in left foot. Nineteenth day: Discoloured patches on right leg, ankle, and heel. Twenty-first day: Generalised convulsions. Twenty-third day: Nasal voice; another discoloured patch on metatarso-phalangeal joint of right hallux. Slough formed on heel, but other patches disappeared. Recovery.

(10) 1910. Bendix's case. Boy, aged 10 years; severe diphtheria;

extensive gangrene of right index and middle fingers; operation; recovery.

This list does not contain two cases of Raynaud's disease following diphtheria, one in a boy, aged 7 years, reported by Chevron, and the other in a man, aged 48 years, recorded by Powell. In another two cases signs of femoral embolism occurred, but death took place before gangrene had had time to develop, in a case related by Escherich, to be described below, and in the following case reported by Auché: Child, aged $4\frac{1}{2}$ years; severe faucial, nasal and laryngeal diphtheria; tracheotomy; repeated injections of antitoxin. After eight or nine days the general condition became worse and signs of embolism developed in the lower limbs. Death. Necropsy: Apical thrombi in both ventricles; very intense myocarditis and slight parietal endocarditis; Gram-positive diplo-streptococcus in endocardial clots. Two thrombi, one 5 cm. long in left external iliac and femoral arteries, the other $2\frac{1}{2}$ cm. long in the right femoral artery.

It is noteworthy that all the cases of gangrene of the extremities following diphtheria have occurred in children, in striking contrast to the gangrene following other infectious diseases, especially typhoid and typhus.

In the few cases in which the date of onset is given the gangrene is stated to have appeared in convalescence, as in the present case. In three cases there was evidence of multiple embolism, which probably also occurred in my case.

In most of the previous cases the character of the initial angina was severe. In the present case the throat was clean on admission to hospital, but a retrospective diagnosis of severe angina could be made on the following grounds: (1) The disease was mistaken by the father for mumps—an error frequently committed with disastrous results in the early stage of malignant diphtheria; (2) the occurrence of two phenomena almost exclusively confined to severe attacks, viz. early palatal palsy and enlargement of the liver; (3) though by no means conclusive, the character of the brother's angina is suggestive owing to the frequency with which severe attacks of diphtheria affect members of the same family. Thus in fifty-one out of 133 families, or in 38.3 per cent. suffering from diphtheria, I have noted that two or more members of the same family had an angina of equal severity.

Though recent research has shown that gangrene of the extremities following infectious disease is, as a rule, caused by autochthonous thrombosis due to acute arteritis—in only 10.7 per cent. of Barraud's

and 5·7 per cent. of von Wartburg's cases was there definite evidence of embolism—in the present case the origin of the gangrene was almost certainly embolic. In the first place there was a well-marked cardiac lesion. Secondly, emboli were also probably present in situations where primary arterial thrombosis is uncommon, viz. the spleen and kidneys, as well as in the femoral and popliteal arteries of the opposite limb, in which, however, the circulation was re-established. The excessive tenderness and enlargement of the liver were possibly due to hepatic embolism, but these signs are fully explained by the hepatomegaly which frequently accompanies severe diphtheria without any infarction, and is due partly to congestion and partly to fatty change. Thirdly, the diagnosis of embolism in diphtheria has frequently been verified at the necropsy. Thus in 59 post-mortem examinations I found infarcts in 7, or 11·8 per cent. In four they were situated in the lungs only, in one in the left kidney, in one in the liver, and in one cerebral embolism was associated with renal infarction.

In this connection it may be stated that cerebral embolism, which the present case fortunately escaped, is much more frequent in diphtheria than embolism of the extremities. Though some cases of post-diphtheritic hemiplegia, of which about seventy cases have been recorded, may have been due to thrombosis or encephalitis, in the great majority of fatal cases evidence of embolism has been found.

Escherich has recently published a case of a boy, aged 2 years, admitted to hospital on the sixth day of a severe attack of faucial diphtheria with broncho-pneumonia. Right hemiplegia developed the same day. The next day generalised convulsions occurred. On the eighth day the thighs became livid, cold, and devoid of sensation, and no pulse could be felt in the popliteal and dorsalis pedis arteries. Death took place the same day. The necropsy revealed a thrombus adherent to the ventricular surface of the mitral valve, embolism of the left middle cerebral artery, and softening of the left cerebral hemisphere. Emboli were also found in the left common iliac artery at its bifurcation and in the right femoral artery. Small recent infarcts were present in the right kidney and liver.

Other instances of embolism following diphtheria will be found in the writings of Professor Marfan and his pupils Deguy and Detot.

The sudden onset in this case, though suggestive, is not, as was once thought, pathognomonic of embolism.

The exact situation of the embolus which was the cause of the gangrene in this case it is impossible to determine. As stated above, an organising clot was found in the popliteal artery, but Mr. W. S. Fenwick, surgical registrar of Charing Cross Hospital, has kindly informed me that the lumen of the vessel was not obliterated, so that the embolus which was the cause of the gangrene must have been higher up.

Of the sixty-two cases collected by Barraud in which the site of the arterial obstruction was determined, unilateral femoral thrombosis was the commonest finding, being noted in thirteen cases, and was closely followed by unilateral popliteal thrombosis, which occurred in twelve cases. It is probable, however, as Barraud remarks, that the latter figure is too high, for in amputation cases which recovered no exact knowledge was obtained as to the extent of the thrombosis, which may, as in my case, have been present in the femoral as well as in the popliteal artery.

It is probable that the excessively low blood-pressure helped to prevent the establishment of a collateral circulation.

The prognosis in gangrene of the extremities following infectious disease is grave, but by no means hopeless. The mortality among Barraud's 103 cases was 51.6 per cent., but many of these date from the pre-antiseptic period. Of the 29 cases in children under fourteen years of age, 13 died, 11 recovered, and in 5 the issue was not recorded. Of the 8 cases following diphtheria in which I have been able to ascertain the issue, 4, including the present case, recovered and 4 died.

Prophylaxis is important, and should consist of large doses of antitoxin and prolonged rest in bed in severe cases of diphtheria. The history of this patient's brother furnishes an instructive example of the value of this treatment. He was admitted with severe angina on the seventh day of disease, when he received 16,000 units of antitoxin. Complete recovery took place, and no complication ensued beyond albuminuria and ciliary palsy. It is noteworthy that in only 1 of the 11 cases of gangrene following diphtheria, viz. that recorded by Breton, had antitoxin been employed.

Finally, I would draw attention to the fact that though more than eight weeks elapsed between the occurrence of the gangrene and the amputation, no harm resulted from the delay. An earlier operation was considered inadvisable owing to the boy's general enfeeblement and his cardiac condition. For the first fortnight following the onset of the gangrene the temperature ranged between 96° and 100° F., but subsequently it remained practically normal.

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A CASE OF CHLOROMA.

By FRED. TRESILIAN, M.D., F.R.C.P.Edin.

THE following account of a case of this rare and interesting disease is somewhat meagre, especially in regard to the earlier stages of the development of the typical signs. No actual notes were taken of the early history, and it is only owing to the kindness of my friend Dr. Distin, of Enfield, under whose care the child continued all through its illness, that I had the privilege of seeing the child on two or three occasions with him.

The boy, William S—, was aged 6 years, and the illness commenced in November, 1909, with complaint of pain in the left knee. In the middle of January, 1910, he was admitted into Enfield Cottage Hospital for circumcision, and while under an anæsthetic was found to have enlarged glands in the abdomen simulating plastic peritonitis. He was very nearly operated on for tabes

mesenterica. In February he showed enlarged glands in the axillæ and neck and growths on cranial bones, and he began to get anæmic. While in the hospital he had slight pyrexia.

March the 27th.—The condition was one of intense pallid anæmia, with no yellow tint of skin; the lips and mucous membranes quite

FIG. 1.



colourless. The eyes were prominent, the temples full, and there were hard swellings on the back of the head. Glands of neck, axillæ, and groins were distinctly enlarged, the axillary and cervical ones being very much so. There was a palpable enlargement of

FIG. 2.



FIG. 3.



the spleen. The child was very emaciated. There was an erratic temperature. There was no deafness, but the child complained constantly of pain in the left ear. He was quite conscious. Hæmic systolic bruits at apex. A blood-slide showed an abundance of large and small lymphocytes.

April the 12th.—The child is much worse, the anæmia more pro-

found and the emaciation extreme. No hæmorrhages of skin or gums. Glands in neck and axillæ in large masses, and four or five growths on cranium; temporal growths larger; marked proptosis and convergent strabismus. A chain of small glands above the left clavicle. Enlargement of veins in temples and on the sides of the face. The large distended veins on the intensely white skin are a striking feature. Swellings could be felt in the abdomen.

May the 3rd.—The child is very wasted. There are five large, bossy growths on the head and a large one on left temple with very distended veins over it, and also very distended veins on both temples, forehead, and sides of face. Other features the same but more in evidence. The child is both conscious and sensible. The child died on May the 23rd, quite conscious to the last. I append the report of the Clinical Research Association as to the blood condition, given on May the 4th, and also three photographs. Fig. 1 shows the child when well and before the disease appeared; Figs. 2 and 3 were taken about the same time as the blood report was given.

The clinical position of the disease is somewhat uncertain. The features exhibited show a marked resemblance to those of acute leukæmia, a disease by no means uncommon in children, in fact, the blood changes are identical in both. On the other hand the glandular enlargements place the disease somewhat close to lymphadenoma, a condition in which usually no blood changes of any consequence occur. It shows also a strong resemblance to lympho-sarcoma, which is also common in children, and would seem to be a clinical condition arising from a combination of this disease with acute lymphatic leukæmia.

Report of the Clinical Research Association.—Examination of this specimen of blood has given the following results: Hæmoglobin 89 per cent., red blood-corpuscles 1,300,000 per c.mm., or 26 per cent., white blood-corpuscles 21,000 per c.mm.

The red blood-corpuscles are irregular in size, several megalocytes and a few microcytes being present, while the average diameter is just over 9 μ . There is a moderate degree of poikilocytosis.

The hæmoglobin content varies considerably, as the stain is well retained by many of the cells, but others show a large central *delle* and intermediary forms occur. A few cells show a tendency to general basic staining (polychromatophilia), but punctate basophilia is not evident. Nine nucleated forms (756 per c.mm.) occur during a count of 250 leucocytes, and are classified as—megaloblasts 3 (252 per c.mm.), normoblasts 6 (504 per c.mm.).

The differential count of the white blood-corpuscles is: Polymorphonuclear neutrophils 49·6 per cent., 10,416 per c.mm.; small lymphocytes 36·4 per cent., 7644 per c.mm.; large lymphocytes 4 per cent., 840 per c.mm.; eosinophiles 2 per cent., 420 per c.mm.; masts 0·8 per cent., 168 per c.mm.; myelocytes 7·2 per cent., 1512 per c.mm.

Degenerated forms of leucocytes are not seen, and the films give no evidence of any marked increase in the number of blood-platelets.

A CASE OF ACUTE INFECTIVE OSTEO-MYELITIS TREATED WITH VACCINE.

By A. G. L. READE, M.R.C.S.Eng., L.R.C.P.Lond.,
*Senior Assistant Medical Officer, the Children's Infirmary, Carshalton ;
Late Senior House Surgeon, Radcliffe Infirmary and
County Hospital, Oxford.*

THERE are several points of interest in regard to the ætiology, diagnosis, and the treatment of this case, and I think it may be useful to record it.

The patient, a boy, aged 14 years, was admitted to the Children's Infirmary on August the 24th, 1909, suffering from early pulmonary tuberculosis. It was noted on admission that he was pale and thin, and that there was probably some consolidation at the apex of the upper lobe of the right lung. He was given the routine open-air and tonic treatment. His general condition slowly improved, the physical signs cleared up after two or three months, and the boy was about to be discharged when, on April the 21st, 1910, his temperature suddenly rose to 102° F., and he complained of pain in the right leg.

On examining the leg nothing abnormal was noticed except some tenderness round the knee-joint, but the patient was evidently seriously ill. He was somewhat drowsy and complained of considerable pain; the tongue was furred and the pulse rapid. The boy was reported to have been out in the wet grass, and for a time it was thought probable that he was suffering from subacute rheumatism. The next morning he was much better, but the temperature was still 102° F., and on the 29th the leg became swollen and extremely tender, and it was quite obvious that he was suffering from acute infective osteo-myelitis.

An incision was made over the front of the tibia, and on the

periosteum being divided a considerable quantity of pus escaped; the upper part of the tibia was bare, and the medullary cavity, on being opened with the chisel, was found to be filled with pus. The opening in the bone was enlarged to about four inches in length, a counter-opening made on the outer side of the calf, and a drainage-tube put through. A culture obtained from the pus showed a pure culture of *Staphylococcus pyogenes aureus*, and some of this was sent to the Metropolitan Asylums Board laboratories for a vaccine to be prepared.

On the following day the boy seemed more comfortable, but complained of pain in his left wrist. The patient was again anaesthetised, and I made an incision over the lower end of the ulna; the periosteum near the styloid process was found stripped off and the bone necrotic. The necrotic part was chiselled away and a counter-opening made through the front of the wrist.

The opsonic index at this time towards the *Staphylococcus pyogenes aureus* was found to be only .77. On May the 4th an injection was given hypodermically containing a quarter of a million cocci, sterilised by being mixed with $\frac{1}{2}$ per cent. carbolic acid and heated to a temperature of 60° C. for half an hour. The same night the temperature rose to 101.2° F., showing a slight reaction to the vaccine. A week later it was found that the opsonic index had risen to .86. Three eighths of a million cocci were given, and on the same night the temperature was 100.4° F., again showing slight reaction. On May the 19th, as the wrist was more swollen, the wound was enlarged and more necrosed bone removed. From this time onward the boy gradually improved. An increasing dose of the vaccine up to a dose of one hundred million cocci was given about every tenth day, and by June the 21st the wrist wound had healed. On July the 7th the opsonic index had risen to 1.35, and a week later the boy was allowed to get up. He is now (October the 18th) extremely well in general health and the leg is almost healed.

Remarks.—With reference to the diagnosis of this case, it is noteworthy that the general condition at first was considerably worse than was accounted for by the local signs. As to the ætiology, I have ascertained that two or three days before the commencement of his illness the boy had fallen down and slightly grazed his knee, the injury being so slight that it was not discovered, and no attention was paid to it by the patient. This was no doubt the exciting cause and possibly the site of entrance of the staphylococcus.

As regards treatment by vaccine, it is always difficult to say how far it does good, because one cannot form an opinion as to what

the progress of the case would have been had no vaccine been given. However, I think that two things are probable in this case. First, that the vaccine diminished the effect of the extreme toxæmia on the general condition of the patient. On a boy, aged 9 years, admitted to the Radcliffe Infirmary, Oxford, suffering from osteomyelitis of the tibia, I performed a similar operation, but the toxæmia so increased and his condition became so grave that it was not considered safe to leave the source of infection, and amputation became necessary. In the present case, on the other hand, the boy's general condition greatly improved a day or two after the first dose of vaccine.

Secondly, I think the vaccine increased greatly the rapidity of healing. It is not uncommon for patients to be transferred to the Children's Infirmary in whom discharging sinuses and necrosis of bone have persisted for years after the attack of acute osteomyelitis. For example, a boy, aged 15 years, who was recently discharged cured, had had the acute attack three and a half years before admission. In the present case the ulnar wound was healed four weeks after the operation, and the tibial wound at the time of writing (October the 18th) is practically well.

I am indebted to Dr. Carl Prausnitz, of the Metropolitan Asylums Board laboratories, for the determination of the opsonic index and preparation of the vaccine.

The Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, October the 28th, 1910.

Dr. E. CAUTLEY, *President, in the Chair.*

A Case of Achondroplasia in a Girl, aged 5 years, was shown by Mr. W. HAMPSON for Dr. ERIC PRITCHARD. The appearance was typical and the height of the child was only 30 inches. Skiagrams showed defective ossification of the epiphyses of the long bones, with overgrowth of the cartilages. The patellæ were either absent or rudimentary and unossified. The child began to walk at the third year, and was healthy and intelligent.

A Heart Presenting Atresia of the Pulmonary Artery, Patent Foramen Ovale and Deficient Interventricular Septum was shown by Dr. T. R. WHIPHAM. The right side was hypertrophied, and the left

carotid artery arose from the innominate artery. The ductus arteriosus was obliterated. The patient, aged 1 year and 9 months, was shown on May the 27th, and presented marked cyanosis and clubbing of the digits. There was at that time a polycythæmia of 9,440,000 red corpuscles per c.mm. The number rapidly increased at the rate of 157,000 per c.mm. a day until a maximum of 12,740,000 with a hæmoglobin value of 200 per cent. was reached. At times there were no murmurs to be heard over the cardiac area, and at most there was but a faint systolic bruit in the pulmonary region. Death occurred suddenly during an attack of dyspnoea.

Dr. PORTER PARKINSON discussed the case.

Congenital Deformity of the Palate.—Dr. D. WOOD showed an infant, aged 5 weeks, with a cleft in the hard and soft palate, the cleft being occupied by new growths, projecting downwards into the mouth, which were of an uncertain nature.

Mr. P. L. MUMMERY made some remarks on the curious condition.

Sclerema Neonatorum.—Dr. F. LANGMEAD showed a case in an infant, aged 8 months. In the face the lines of expression were almost absent and the mouth gaping from stiffening of the cutaneous and subcutaneous tissues. The child, however, was able to suck. The skin all over the trunk was firm and inelastic, and the thighs and outer aspects of the calves were also affected. The latissimus dorsi and pectoralis muscles were firm and contracted. The X rays did not show any calcification of muscles. The knees and elbows were extended with difficulty. The hands were small and the fingers tapering and stiff at the interphalangeal joints. The feet were similarly affected to a less extent. The temperature showed a daily rise from 99° to 100° F.

Dr. PORTER PARKINSON and the PRESIDENT discussed the diagnosis of the case.

Tumour of Rectus Abdominis.—Mr. P. L. MUMMERY exhibited a girl, aged 5½ years, in whom a tumour on the posterior aspect of the left rectus abdominis muscle was first noticed about three weeks previously. This had almost disappeared under iodide of potassium. There were no other signs nor history of congenital syphilis. Wassermann's reaction had not been tried.

Mr. D. DREW remarked as to the treatment of the case and Dr. PARKES WEBER also spoke.

Injury to the Brachial Plexus.—Mr. DOUGLAS DREW showed a boy, aged 10 years, with injury to the right brachial plexus as the result of being crushed by a van-wheel. The arm presented a paralysis of the Duchenne-Erb type, with weakness of the extensors of the wrist and slight anæsthesia over the shoulder. The paralysed muscles showed the reaction of degeneration and had not regained power. A little above the clavicle some induration of the tissues could still be felt.

Mr. P. L. MUMMERY, in commenting upon the case, said that one cause which he believed operated in producing Erb's paralysis, but had not yet been mentioned, was the method of doing artificial respiration in the newly born infant, which consisted in holding the face away, with the thumbs over the clavicles, and throwing the child backwards over the head and down again. He saw a case of Erb's paralysis at hospital in which that method

was stated to have been done for three quarters of an hour, and the muscle was practically torn through. That danger should be put before those who did midwifery work.

Separation of the Lower Epiphysis of the Humerus.—Mr. DREW also showed a boy, aged 5 years, in whom a fall had caused a separation of the lower epiphysis of the humerus with displacement inwards. A skiagram showed that the epiphysis was attached to the inner side of the humerus by a large buttress of callus.

Gangrene of Leg following Diphtheria.—Dr. J. D. ROLLESTON showed charts and photographs of a case occurring in a boy, aged 13 years. The patient was not seen until the seventeenth day, no antitoxin having been given. Palatal palsy and albuminuria were present on admission to hospital. The same evening the right leg below the knee became cold and anæsthetic, and the plantar reflex was lost. Circulation was re-established in four hours, but during the next week dilatation of the heart ensued and a loud systolic murmur developed. On the twenty-first day there was temporary coldness and discoloration in both legs, and on the thirtieth day commencing gangrene of the left leg with obliteration of the pulse in the popliteal artery. Gangrene rapidly developed in the foot and leg and amputation through the knee-joint by Mr. Clogg was subsequently performed, when an organising clot was found in the popliteal artery. Recovery was uneventful. The gangrene was probably of embolic origin. Only ten other cases of gangrene of the extremities after diphtheria have been recorded.

Concurrent Scarlet Fever and Chickenpox.—Dr. J. D. ROLLESTON also showed charts and photographs of a boy, aged 8 years, who had been exposed to chickenpox three weeks previously, and was admitted with a typical scarlet fever throat and rash. On the following day the varicella eruption appeared. Subsequently there was a profuse desquamation and late cervical adenitis which confirmed the diagnosis of scarlet fever. The child made a good recovery.

A Female, aged $3\frac{1}{2}$ years, the Subject of Recurrent Tetany, was exhibited by Dr. G. A. SUTHERLAND. The attacks began seven months previously after prolonged indigestion and abdominal pain. A month later the abdomen was distended and tender, a fluid thrill being present. The symptoms subsided but recurred with pain in the hands and feet. The tetany was typical, facial irritability being marked at times and laryngeal stridor occasionally present. Von Pirquet's test was negative and there were no signs of active rickets.

Dr. LANGMEAD and the PRESIDENT discussed the case at length and Dr. T. R. WHIPHAM made some remarks.

A Case of Idiopathic Hypertrophic Dilatation of the Colon with Skiagrams was shown by Dr. J. B. MOLONY and Dr. H. D. ROLLESTON. The patient, a male, aged 3 years, had severe bilious vomiting when eight days old, but then remained well, though thin, till he was weaned at sixteen months; he then became subject to bouts of constipation lasting four or five days, with progressive abdominal distention. Medicine or enemas brought away large quantities of hard fæces and flatus. Later, although purgatives were taken daily, the bowels did not respond unless enemas were

given; the appetite was ravenous, but the child became very thin. There had been five or six attacks of specially obstinate constipation accompanied by bilious vomiting, which had never been stercoraceous. There had been numerous attacks of tympanitic distention without vomiting, which were relieved by the expulsion of wind. When admitted, during a minor attack of this kind, the boy showed very great tympanic distension of the abdomen with upward displacement of the heart and lungs. Peristaltic waves were observed passing along the course of the colon from right to left; as the wave progressed a V-shaped eminence, with its apex upwards, was seen to rise between the recti. A wave had also been observed to pass from left to right in the left hypochondrium and epigastrium, resembling that seen in hypertrophic stenosis of the pylorus, but probably due to displacement of the descending colon. The patient, who was poorly nourished (weight, 1 st. 10 lb.), was cheerful, and did not show any signs of pain when vigorous peristalsis was going on. There was no clubbing of the fingers. The urine contained indican, but not in large quantities. The distention varied, and after a long tube had been passed the abdomen sometimes appeared almost natural. The mother's relations were said to be markedly constipated; there were two other children, both in good health. Two drachms of bismuth carbonate in three ounces of milk were administered to the child, and screen examination immediately afterwards showed that the whole of the bismuth was high up under the left diaphragm, thus proving that the abdominal distension was not due to dilatation of the stomach. A skiagram from front was taken three and a half hours later, and showed that the bismuth was lining the walls of an enormously distended bowel, extending vertically on the extreme right of the abdomen, and that there was a transverse viscus of normal calibre across the upper part of the abdomen also containing bismuth. These appeared to be ascending and transverse colons respectively. The inference was that the stomach and small intestines had passed their contents on with at least normal rapidity. A skiagram taken from front twenty-four hours after bismuth had been taken showed some small amount of bismuth in the right iliac region and none elsewhere. After this skiagram was taken an indiarubber tube, with soft metal wire in it, was passed into the anus, and a length of about 8 in. passed freely, without obstacle, into the bowel. A skiagram taken from the front showed that the tube extended vertically upwards through the abdomen as far as the diaphragm, suggesting that the central distended gut, as seen on skiagrams, was rectum.

The PRESIDENT and Mr. P. L. MUMMERY discussed the case.

A Child, aged 4 months, with "Congenital Elephantiasis" of the Arm, was exhibited by Mr. C. T. DENT. There was probably extensive lymphangiectasis, so that the condition was allied to cystic hygroma. There was also superficial nevus so that there was a condition of cavernous angioma. The bones appeared normal in a skiagram, but were probably longer than in the corresponding limb.

Dr. PARKES WEBER remarked upon the case.

A Case of Congenital Insufficiency of the Soft Palate in a Girl, aged 9 years, was exhibited by Dr. L. GUTHRIE. Regurgitation of fluids through the nose occurred during the first five years of life, but not afterwards. The speech was marked rhinolalia, but was not intelligible until the patient was five years old. The soft palate was normal in appearance, but motion-

less on phonation and on stimulation. The condition was thought to be one of muscular insufficiency rather than of submucous cleft palate.

Congenital Heart Disease.—Mr. P. G. LEE sent a report of a case of deficiency in the interventricular septum and patent ductus arteriosus in a child, aged 7 years.

Philadelphia Pediatric Society.

MEETING, October the 11th, 1910, CHARLES A. FIFE, M.D., President.

Purpura.—Dr. THEODORE LE BOUTILLIER showed a boy, aged 2 years, of Italian parentage, breast-fed for eighteen months, although table food had also been given since he was a year old. He had had cervical abscesses at nine and again at eighteen months. He had had attacks of purpura ever since he was six months old, lasting two or three days at a time. There had never been hæmorrhage from any mucous membrane. Blood examination February the 9th, 1910, showed hæmoglobin 15 per cent., red cells 1,600,000, leucocytes 22,000; on June the 10th, hæmoglobin 25 per cent., red cells 4,128,000, leucocytes 30,600. He had had severe nasal hæmorrhages, but none since the last blood-count.

Dr. ELEANOR C. JONES referred to a case of purpura in a child which had up to the present time lasted six months, due to a streptococcal infection through the tonsils.

Leukæmia.—Dr. LE BOUTILLIER also showed a boy, aged 1 year, who had had bronchitis when eleven weeks old. He was one of twins, breast- and bottle-fed, in poor hygienic surroundings. His spleen was noted as enlarged and palpable March the 5th, with enlarged abdomen and marked pallor. He remained pale all the summer. In September he had an attack of diarrhoea, vomiting, and some cough, moderate jaundice, large tense abdomen, palpable spleen two fingers' breadth below the costal border, large liver, and œdema of the scrotum. He was admitted to St. Christopher's Hospital for Children October the 1st. Blood examination April the 10th showed hæmoglobin 40 per cent., red cells 660,000, leucocytes 16,000; July the 10th, hæmoglobin 35 per cent., red cells 445,000, leucocytes 24,100; and on October the 10th, hæmoglobin 35 per cent., red cells 300,000, leucocytes 28,100. Differential count gave polynuclears 27 per cent., mononuclears 43 per cent., lymphocytes 28 per cent. and basophiles 2 per cent.

Dr. E. E. GRAHAM called attention to the importance of making more blood examinations in cases of malnutrition.

Splenic Anæmia.—Dr. J. CLAXTON GITTINGS showed a girl, aged 20 months, who had had intestinal indigestion since birth. Her abdomen had always been large; there was no evidence of syphilis. The mother felt the "lump" in the abdomen twelve days ago, and brought her to the children's hospital seven days ago, with moderate rickets, head sweating, flatulent, distended abdomen, liver enlarged 1 cm. below costal margin, and spleen extending to the anterior superior spine of the ilium and to within 1 cm. of the median line. Blood examination May the 10th gave hæmoglobin 55 per

cent., red cells 3,460,000, leucocytes 13,000; on October the 10th, hæmoglobin 45 per cent., red cells 3,050,000, and leucocytes 16,680. Differential count was polynuclears 62·2 per cent., large mononuclears 4·6 per cent., small mononuclears 28·2 per cent., transitionals 8·9 per cent. and eosinophiles 4 per cent. in 13,680 leucocytes. She had digested her food well since admission, and the blood-findings thus far did not warrant the diagnosis of anæmia pseudo-leukæmica infantum. The disproportion between the size of the spleen and the degree of the changes in the blood was the principal point of interest.

Delayed Crisis in Croupous Pneumonia.—Dr. GITTINGS showed a boy, aged 2 years, whose only previous illness has been bronchitis last May. He became ill September the 7th, suddenly, with vomiting, fever, malaise, dry, short cough, rapid breathing, and loose stools. Examination on admission showed consolidation of the entire right lung. Crisis occurred on the twenty-second day, and since then the temperature had not exceeded 100° F. During the period of pyrexia the physical signs remained practically unchanged, while the consolidation had almost completely disappeared since the crisis. This case will be reported later in full.

Tubercular Peritonitis.—Dr. GITTINGS also showed a coloured boy, aged 8 years, whose illness began a month ago with dull abdominal pains, worse after eating, and somewhat relieved by stools, which were semi-liquid, about twice daily. He also suffered from anorexia and slight headache. The abdomen had been increasing in size. Examination revealed ascites, but no masses or enlarged liver, or spleen. There was moderate rigidity and distinct generalised tenderness. Rectal examination was negative. His temperature ranged from 98° to 100° F., occasionally 101° F. The blood picture was that of moderate anæmia; the urine was normal; X-ray examination of the abdomen was negative. Von Pirquet's vaccination gave no reaction. The ascites had markedly decreased during the past three weeks and could now barely be demonstrated. Of especial interest was the history of the mother having miscarried nine times on various occasions before and after the birth of this boy, the only child. No signs or stigmata of lues could be demonstrated in the boy. The Wassermann reaction had not yet been done.

Congenital Deformity of the Thorax.—Dr. ARTHUR NEWLIN showed a baby, aged 6 months, showed in Dr. Hamill's service at the Polyclinic Hospital. The child was born at full term, normal, non-instrumental labour; parents living and well; two other children well; no dead children, no miscarriages. The deformity of the back was noticed shortly after birth; the child was well, suffering neither discomfort nor inconvenience. Examination showed distinct enlargement to the left, and continuous with the vertebral column, in the region from the twelfth dorsal to the second lumbar vertebra, an elevation of the spinal column extending to the left two inches. This was hard and firm, and the skin and subcutaneous tissues over it were somewhat thickened. The spines of the vertebrae seemed to be in an approximately straight line. There was no tenderness, no sign of inflammation or fluctuation about the mass. Von Pirquet reaction was positive. The X rays showed congenital absence of the right half of the twelfth dorsal vertebra and the twelfth rib on the right side. The left half of the twelfth vertebra was shown as a small wedge-shaped shadow occupying the space between the eleventh dorsal and the first lumbar vertebra on the left side. The absence of half of the vertebra on the

right and the presence of the wedge-shaped piece of bone on the left produced a distinct angle that was well shown in the X-ray plate, causing the mass on the left side of the vertebral column. On looking into the literature Dr. Newlin was surprised to find that this deformity had frequently been noted by anatomists, in most cases in the lower dorsal or upper lumbar regions. Cases showing the absence of whole or part of different vertebrae with accompanying ribs in the lower dorsal region were not uncommon.

Congenital Heart Disease.—Dr. E. E. GRAHAM showed a girl, aged 5 years, first child, who was born without instruments, was breast-fed four months, and walked at fourteen months, when she had bronchitis, at which time her heart disease was first noted. At nineteen months she had chickenpox; measles at two and a half years; lobar pneumonia affecting the right lung seven weeks ago, with crisis after almost three weeks. She was poorly nourished, below normal weight and height. The veins of the upper left anterior portion of the thorax were slightly distended; there was marked præcordial bulging; when at rest respiration was 28; pulse was regular, small, 121 per minute. The lips were somewhat blue and pale, hands and feet were cold, and fingers and toes were distinctly clubbed. Inspection showed a diffuse impulse in the mammary line in the region of the nipple; palpation showed an apex-beat a half inch within, without and above this spot. Relative cardiac dulness extended almost to the right mammary line, to the second costal cartilage, and to the left slightly beyond the mammary line. Absolute dulness reached the lower border of the second rib and almost to the left mammary line. A loud systolic murmur was plainly heard over the entire chest, loudest to the left of the sternum at the second rib. It was much less distinct in the axillary line, also less distinct at the angle of the scapula than higher up in the back, between the scapula and the spinous processes. The right side of the heart was evidently enlarged, more laterally than vertically. Cyanosis was only present after exertion. The pulmonary second sound was normal. There was no thrill on the pulmonary valve region. Dr. Graham believed the most probable diagnosis to be defect of the ventricular septum, patent foramen ovale, with probably abnormal origin of the great vessels. He based his diagnosis upon the comparatively slight cyanosis, the absence of a thrill, the hypertrophy of the right ventricle being sufficient to overcome the pressure in the left ventricle, the latter being little if at all enlarged, thus maintaining a fairly good pulmonary circulation. The latency of the condition, the slight cyanosis, and the recovery from a severe lobar pneumonia made this case of exceptional interest.

Dr. W. N. BRADLEY suggested the possibility of pulmonary stenosis.

Dr. J. H. MCKEE referred to three somewhat similar cases which he had seen during the past year.

Dr. GITTINGS said that transposition of the great vessels could also be inferred from the fact that the cardiac dulness extended as far, or even slightly further to the right of the sternum than it did to the left, and that the maximum intensity of the murmur seemed, to his ear at least, to be situated about mid-sternum rather than to the left.

Amaurotic Family Idiocy.—Dr. KENNETH D. BLACKFAN reported a case of amaurotic family idiocy showing certain skeletal changes of achondroplasia of an atypical type. When first seen the characteristics of achondroplasia were manifest clinically, and X-ray pictures showed the skeletal changes of an atypical type. When the case came under observation six

months later there were symptoms suggestive of amaurotic family idiocy, and the ophthalmoscopic examination showed the pathognomonic picture of this condition. The skeletal changes of achondroplasia were even more marked than at the first examination.

Congenital Hypertrophic Pyloric Stenosis.—Dr. HARRY LOWENBURG reported the case of a girl, whom he had seen in June, then six and a half weeks old. Vomiting had begun at two and a half weeks and continued in spite of treatment. The baby lost weight, weighing 5 lb. 7 oz. when seen. In spite of all efforts the parents refused operation until the child had lost more weight. When seven weeks of age Dr. Stewart performed posterior gastro-enterostomy at the Pennsylvania Hospital. The pylorus was found absolutely impassable, thickened and hard. The stomach was enormously dilated and the intestines had completely collapsed. A small hard tumour mass was found at the pylorus. The child did well at once and weighed 13 lb. at twenty-two weeks. Dr. Lowenburg then discussed the question of diagnosis and treatment in full.

Dr. BRADLEY congratulated Dr. Lowenburg upon having the courage of his convictions; while we see some cases which suggest pyloric stenosis, making the diagnosis entails such heroic measures for relief that one must feel more than ordinarily the correctness of one's views. Posterior gastro-enterostomy is the operation of choice in these cases, as the extremely small calibre of the pyloric orifice, as viewed post mortem or at operation, makes it almost absurd to attempt any form of pyloroplasty.

Dr. GITTINGS thought that the amount of faecal matter passed in these cases was perhaps a more trustworthy index of obstruction than the frequency of vomiting. When the bulk of the stool was persistently minimal, it was of more significance than the cessation of the vomiting for twenty-four hours. The latter could occur in the presence of gastric dilatation when there was complete obstruction of the pylorus. Those remarks must not be constructed as an attempt to detract from the importance of spasm as a factor in many cases.

Dr. LOWENBURG said that when the presence of a tumour could not be definitely determined, the question of operation was a difficult one to decide. The only way to decide was by making careful daily observations of the infant's weight and strength.

Dr. ROSE HARRISON reported the case of an infant which died when five weeks of age, as operation was refused. Symptoms had appeared when the baby was two weeks of age. The autopsy showed hypertrophy of both mucous membrane and muscular coats of the pylorus and stomach. Only a fine steel probe could pass through the pylorus.

Dr. BRADLEY said that he had seen this case two or three days before death. He had agreed with Dr. Harrison in urging operation, but the family had refused. At the autopsy he was impressed by the extremely narrow pyloric orifice admitting only a fine probe.

Dr. LOWENBURG thought that Dr. Harrison's case was one of those that should undoubtedly have been operated upon. Dr. Lowenburg did not believe that the fact that many of these infants retained nourishment for twenty-four hours excluded complete stenosis of the pylorus, but on the contrary, this might be corroborative evidence of stenosis, being explained by the enormous dilatation of the stomach and the misstatements of parents in their eagerness to avoid operation. The absence of curds in the stools was also important evidence of complete stenosis.

Reviews.

THE CARE OF CHILDREN FROM BABYHOOD TO ADOLESCENCE. For the use of mothers and nurses. By BERNARD MYERS, M.D., C.M. With a preface by George F. Still, M.A., M.D., F.R.C.P. Second edition, revised and enlarged. Pp. xv + 174. London: Henry Kimpton, 1910. Price 1s. 6d. net; cloth, 2s. 6d. net.

THE success of this little work, which was reviewed in our February issue, is proved by the appearance within the year of a second edition. The principal addition is an appendix with a description of a simple method for making and sterilising the baby's milk without expensive apparatus. A list of books suitable for children has also been added.

DENGUE: GLANDERS (DENGUE-MUERMO). By Dr. D. JOAQUIN T. DUEÑAS. Barcelona: F. Seix, 1909.

THIS is a reprint of two articles contributed to the Spanish translation of Pfaundler and Schlossmann's 'Encyclopædia of Pædiatrics.' The first article is a careful description of dengue from the literature. The geographical distribution is more widespread than stated by Dr. Dueñas; the writer has seen the disease along the Pacific coast of South America and in the Andean Valleys, 2000 or 3000 feet above sea-level. Since Graham's pioneer work the mosquito has been convicted, on fairly reliable evidence, of spreading the parasite among men. Dr. Dueñas gives a good summary of these investigations. The article on glanders is less complete; such work as that of Dr. J. Bernstein and Mr. Carling on glanders in London, which has thrown much new light on the disease, has been quite overlooked.

A HANDBOOK OF INTESTINAL SURGERY. By LEONARD A. BIDWELL, F.R.C.S. Second edition. Pp. xiv + 215. London: Baillière, Tindall & Cox, 1910. Price 6s. net.

THIS book has been almost entirely re-written for the new edition. It gives a very complete and detailed description of all the commonly used methods of intestinal suture. The descriptions aim at telling a student how to practise and make himself perfect in the application of sutures to the intestine, it being recommended that the practice should be obtained on portions of bullock's intestine. All the different methods of suture and anastomosis which are of any practical value are very carefully described. There are also several chapters upon special operations in the abdomen. The last two chapters in the book deal with the preparation and after-treatment of operations in the human subject. The book is very fully illustrated throughout. We think that this book fulfils a useful function in surgical literature. It should certainly be read by those wishing to perfect themselves in the technique of abdominal surgery, and there is much valuable information between its pages.

STAFFORDSHIRE COUNTY COUNCIL: ANNUAL REPORT OF THE SCHOOL MEDICAL OFFICER FOR 1909. Pp. 99. Stafford, 1910.

AN exhaustive report is published by Dr. George Reid, Dr. Priestley, and four lady medical practitioners. Dr. Reid, the County Medical Officer of Health, has confined himself to writing a preface summarising the opinions of his staff, and deploring the loss of the grant for epidemic disease. He

leaves to Dr. Priestley, who is actually engaged in the work of inspection, the task of commenting on the enormous mass of ascertained facts; this is a practice to be recommended to other county officers, whose second-hand knowledge contributes materially to the dulness of their annual school reports.

Twenty thousand four hundred and seven-two children were inspected, eight minutes being devoted to the younger and ten minutes to the older children. Invitations to parents to attend the inspections met with but little response. On the other hand, great success has been obtained in persuading the parents to obtain treatment—90 per cent. of the cases are reported as having followed out the recommendations of the inspector. A height and weight table in the English and continental system is supplied, but unfortunately no comparison is made with the standard drawn up by the British Association.

Thirty-seven per cent. of the girls and 6 per cent. of the boys are verminous—a regrettably high figure, but one which shows improvement on last year's statistics, especially when it is remembered that no school nurses have been appointed to cope with this evil.

One hundred cases of ringworm were discovered among the 20,472 children examined, and from this it is calculated that there are about 400 cases among the school population of 75,000. Dr. Priestley thinks that tinea is of low infectivity, and supports his statement by remarking that different schools were affected in successive years, and that usually there were only one or two cases in each school.

Defective vision was more common than usual; 10·5 per cent. of the children tested showed vision of $\frac{6}{18}$ and 16 per cent. of $\frac{6}{12}$. As is usual, the girls afforded the larger number.

Of 12,178 children examined, 513, or 4·2 per cent., were found to be mouth-breathers; 35·5 per cent. of the mouth-breathers were deaf. A preponderance of mouth-breathers was found among those suffering from enlarged tonsils and the presence of adenoids.

Severe dental caries (*i. e.* more than four decayed teeth) is recorded in 43 to 44 per cent. of the cases examined.

Hutchinson's teeth were noted in only one case.

Two hundred and forty-four cases of organic heart disease were discovered exclusive of 20 congenital cases. No details are given as to the valve affected, or to the necessity or otherwise of regulating school games and drills.

Of 20,474 children inspected, 34, or a percentage of 0·16, were found to be suffering from consumption of the lungs. No remark is made as to the stage of the disease, or the grounds on which the diagnoses were based. It is stated that about 5 per 1000 of our children suffer from consumption, and that the mortality rate is one tenth of the morbidity rate.

PROCEEDINGS OF THE NATIONAL ASSOCIATION FOR THE STUDY OF EXCEPTIONAL CHILDREN. Plainfield, New York, April, 1910.

TIME was when those imaginary lines drawn between kingdoms and known as frontiers could isolate nations from each other almost as effectively as lofty mountain-chains. The peoples on either side grew up in happy ignorance and equally happy contempt of their neighbours. To-day, however, we pass to and fro from this land to that, and find ourselves at home in all. We are citizens of the world, and, as cosmopolitans, we scarcely recognise an international boundary. So it has been with the sciences. Time was when

the "ologies" were securely walled off from each other. The biologist spent his vacation at home, and was sure he could gain nothing by a trip through the country of the geologists. The pathologist lived content in his own land, and cared not a fig for the dreary realms of the physiologist, where not a morbid process could be seen, north, south, east or west. To-day, however, we have become fraternal. We like to know how our neighbours fare, and, more remarkable still, we have found that they subsist on much the same food as ourselves, toil at the same work, and worship the same gods.

And yet the scientific barrier that remains with fewest gaps in it is, perhaps, that which separates the normal from the diseased. There are still people in plenty to whom these are as the land and the ocean—separate in being, unlike in form, different in essence. They see no transitions between them. Each is sharply marked off from the other. To these people, and, indeed, to all whose interest is in childhood, we recommend the volume whose title stands above. Ordinary children we know; they are common enough. Abnormal children we know—the idiots, the moral imbeciles, the epileptics. The two classes stand wide apart to right and left, and not even their shadows bridge the gap. But what are "exceptional children"? What is their merit that they should deserve a national association to study them?

Exceptional children are the children who, unnoticed by doctors, unheeded by educationalists, stand hand in hand linking up the normals with the abnormals. They belong to neither themselves. They are no more normal than they are abnormal. They are just exceptional. Some are bright, others are dull. Some are talented, others, perhaps, lack a quite every-day mental faculty. Until Maximilian Groszmann began to study them ten years ago no one had realised that in the minds of these children was hidden a key to the psychology (and therefore the education) of all children. And yet no one who reads the proceedings of this association, founded to commemorate Dr. Groszmann's work, can doubt the importance of recognising and studying exceptional children, or maintain that the normal and the diseased are not the two ends of one and the same chain.

THE FEEBLE-MINDED IN ONTARIO; FOURTH REPORT FOR THE YEAR 1909. By Dr. HELEN MACMURCHY. Toronto: L. K. Cameron, 1910. Pp. 50.

THIS report begins with a short account of the most interesting cases in the two institutions in Toronto—the Industrial Refuge and the Haven. The inmates are for the most part drawn from the class of the feeble-minded prostitute, or from persons who would have drifted into this class had they not been referred to these institutions by the authorities of the Maternity Hospitals. The inmates are taught remunerative manual work, which they learn to perform with wonderful success, and are also instructed in reading and writing. In some cases the improvement is so marked as to lead to the relatives insisting upon the inmate's discharge, with the usual result that another illegitimate and non-productive individual is thrown upon the rates. Dr. MacMurchy calculates that there are 1000 feeble-minded females in the province, and that there are 100 children born to these women annually. The report proceeds with an account of what is being done in other countries. Especially interesting is the achievement of New Jersey, where a training school has been established for those who wish to devote themselves to the teaching of the feeble-minded. The students actually teach defective children clay modelling, sewing, basketing, and other manual work. They also have the run of a completely fitted psychological laboratory, furnished with the

latest instruments of precision, and in addition of an anthropometric department in which are found a spirometer and a Smedley dynamometer.

In Germany there are 230 schools for defective children, with an attendance of 15,000. Some of these cases were investigated by E. Schlesinger, who found that parental alcoholism was the cause of only 2 per cent. of the cases, while 10 per cent. were due to neuropathic inheritance, including cerebral syphilis and tuberculosis. Deafness was very rarely the ætiological factor, while trauma at birth and atrophy of the thyroid were still more infrequent.

The rest of the report deals with what has been done in England from the legislative and medical standpoint.

THE PROBLEM OF THE CRIPPLED SCHOOL-CHILD. By E. D. TELFORD, F.R.C.S., Surgeon to the Manchester Hospital for Sick Children, Assistant Surgeon to the Manchester Royal Infirmary, Visiting Surgeon to the Manchester Residential School of Crippled Children. London: Sherratt and Hughes, 1910. Price 6d.

THE adoption of the provisions of the Elementary Education (Defective and Epileptic Children) Act, 1899, by the Manchester Education Committee, and the establishment of the Swinton Residential School for Crippled Children, are described and justified in an interesting pamphlet by Mr. E. D. Telford.

In the ordinary course of events the crippled child either attends school and neglects treatment, attends an out-patient department, or lives in the wards of a hospital and neglects education, or stays at home. In Swinton House sixty little cripples receive treatment and education.

These children are the victims, as may be expected, of (1) rickets, (2) infantile paralysis, and (3) tuberculosis of joints, and the training they receive is calculated to make them useful, self-supporting members of the community. Such children must otherwise be neglected, and unless supported by their families or relatives, ultimately may be reduced to beggary, their deformities becoming the objects of pity to the charitable public.

For the "progressive" cripple, as Mr. Telford mentions, the Poor Law Infirmary is the only hope, and far from satisfactory at that.

The school is conducted with the utmost economy. The milk supply is excellent and abundant, the school having its own cows on its own land. No operations are performed, and cod-liver oil is the only drug used.

A more interesting pamphlet on a more absorbing topic it would be difficult to find. It is to be hoped that Mr. Telford's excellent and brief description of a solution of a baffling condition of affairs will shortly be in the hands of all responsible for the care and education of school children.

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA. Third series. Vol. XXI. Philadelphia: 1909. Price not stated.

THIS volume contains the following articles of pædiatric interest: The Law of Degeneracy in its Relation to Medicine, by C. P. Noble; An Account of the Subcutaneous Injection of Sea-water and Results obtained, by T. Le Boutillier; Intestinal Perforation during Typhoid Fever, by J. H. Jopson and J. C. Gittings; A Case of Appendicitis in which *Oxyuris vermicularis* was found in the Appendix, by A. P. C. Ashhurst; Purulent Meningitis second to Pan-sinusitis, Operation, Recovery, by W. G. Shields, jun., W. G. Spiller, and E. Martin; and Congenital Single Kidney, Practical Signification of the Condition, with Statistics, by J. M. Andrews.

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